00110271

00110271

Digitized with financial assistance from

Hermès India

a project facilitated by the Rotary Club of Bombay

on 12 April, 2019

REPORT AND ACCOMPANYING DOCUMENTS

OF THE

UNITED STATES

110271
ae

MONETARY COMMISSION

ORGANIZED UNDER

JOINT RESOLUTION OF AUGUST 15, 1876.

Jones, John P.

ADM
332.49
Jon/Rep
110271

VOLUME I.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1877.

44TH CONGRESS, 2d Session. } SENATE. { REPORT No. 703.

IN THE SENATE OF THE UNITED STATES.

MARCH 2, 1877.—Ordered to be printed.

Mr. JONES, of Nevada, from the Monetary Commission created under the joint resolution of August 15, 1876, submitted the following

REPORT:

The commission created under the joint resolution of August 15, 1876, submit the following report

The resolution creating the commission and defining its duties was as follows:

Resolved by the Senate and House of Representatives, That a commission is hereby authorized and constituted, to consist of three Senators, to be appointed by the Senate; three members of the House of Representatives, to be appointed by the Speaker; and experts, not exceeding three in number, to be selected by and associated with them; with authority to determine the time and place of meeting, and to take evidence, and whose duty it shall be to inquire—

First. Into the change which has taken place in the relative value of gold and silver; the causes thereof, whether permanent or otherwise; the effects thereof upon trade, commerce, finance, and the productive interests of the country, and upon the standard (of) value in this and foreign countries;

Second. Into the policy of the restoration of the double standard in this country; and, if restored, what the legal relation between the two coins, silver and gold, should be;

Third. Into the policy of continuing legal-tender notes concurrently with the metallic standards, and the effects thereof upon the labor, industries, and wealth of the country; and

Fourth. Into the best means for providing for facilitating the resumption of specie payments.

The commission as organized consisted of Messrs. John P. Jones, Lewis V. Bogy, and George S. Boutwell of the Senate, Messrs. Randall L. Gibson, George Willard, and Richard P. Bland of the House of Representatives, Hon. William S. Groesbeck, of Ohio, and Prof. Francis Bowen, of Massachusetts. George M. Weston, of Maine, was appointed secretary.

The sessions of the commission were held in the city of New York until the re-assembling of Congress in December last. They have since been held in the city of Washington.

Immediately after the creation of the commission, circulars were issued to bankers, publicists, and commercial men in this country, and to eminent financial authorities in Europe, and (through the State Department) to the representatives of the United States in foreign countries. These circulars contained interrogatories which were intended to elicit the widest possible information upon all the topics covered by the resolution of August 15, 1876. The chambers of commerce in the leading cities in this country were invited to furnish, and did furnish, lists of the persons most likely to be able to give information.

A large number of persons appeared before the commission, who were orally examined. In addition, numerous written papers from various sections of this country were received in answer to the circulars of the commission. These papers, as well as the oral testimony taken down by stenographers, are reported herewith.

Our ministers abroad have exhibited a patriotic and intelligent zeal in collecting official and other information in the countries to which they are accredited. The documents which they have furnished are very valuable, and some of them not attainable except through official applications. Some of our ministers have added able and interesting original papers. All these documents and contributions are herewith submitted.

The commission are much indebted to the Secretary of State for his prompt and courteous co-operation in facilitating their communication through his Department with our ministers abroad.

They are also indebted to the Bureau of Statistics, which promptly and courteously furnished all the information asked for.

Several gentlemen in Europe, eminent as financial authorities, have addressed communications to the commission, which are among the submitted papers. One of these gentlemen, M. Cernuschi, appeared personally before the commission, and furnished important and valuable information, which will be found in the reported testimony. The thanks of the country are due to him and to the other distinguished citizens of foreign nations who have made these disinterested efforts in the elucidation of a question important to the welfare of mankind.

There are also submitted herewith special reports of the secretary of the commission upon European and American legislation in respect to subsidiary coinage and upon other subjects.

In respect to the preparation of the minute on the production of silver in the United States, it may be stated that, in 1873, a new body of paying ore was discovered in one of the mines of the Comstock lode in Nevada. Similar bodies of nearly equal extent had been previously discovered and exhausted in the Spanish-American silver-lodes and in the Comstock lode, without attracting universal attention or arousing universal fear that the commerce of the world was about to be deluged by a flood of silver, but in the present instance, through persistent and infectious exaggerations in respect to the extent and richness of the new ore-body, the most visionary expectations and unwarranted fears became universally epidemic. The estimates of the value of the ore in sight ranged from $300,000,000 to five times that amount, all of which was generally believed to be in silver. The probable out-turn of this new bonanza is a leading topic in the report of the British silver commission, (1876,) which contains, among other evidence on the subject, a quotation from a German newspaper, the *Reichsanzeiger*, of March 14, 1876, which gives, as foremost of the "three principal causes for the depreciation of silver:"

1st. The discovery of the great and celebrated silver-mines in Nevada, which in reality produce fabulous quantities of silver, the production for the current year being valued at five hundred million francs.

Deeming it of the first importance that these estimates and statements should be subjected to a practical and careful scrutiny, this commission employed Mr. Alexander Del Mar, a gentleman technically qualified for such an investigation, to visit the mines in person, and ascertain from original sources their past and prospective production, and also generally to inquire into the silver production of the United States, and its sources.

The result of this mission will be found in the *Minute on the Silver*

Production of the United States, referred to above. Minutes prepared by Mr. Del Mar on the coinage of the United States since 1792, annual production of silver throughout the world, annual production of gold throughout the world, and on other subjects are also reported herewith.

The yield of every mine in Nevada, annually, for sixteen years, has been ascertained with precision, and of the larger mines the yield by months. The statistics have as yet been collated only for the calendar years 1871 to 1876, inclusive; the previous years, being of less importance in the present connection, have been left for future attention.

In addition to this work, the testimony of the persons in San Francisco who have compiled the generally-accepted statistics of the production of the precious metals in this country, was taken with the view of ascertaining their methods of computation and the reliability thereof.

Briefly, the investigation shows that the product of the Big Bonanza thus far has not exceeded $52,500,000 during the four years that it has been worked, making an annual average of about $13,000,000, of which 45 per cent. was gold, leaving for the average annual product of silver from this ore-body a fraction over $7,000,000.

Taking all the mines of the Comstock lode together, during sixteen years of unprecedented activity in mining, assisted by the most perfect and powerful mechanical appliances, there have been found some twelve or thirteen ore-bodies, which have yielded, altogether, about $240,000,000, or an annual average of $15,000,000, of which about forty-seven and one-half per cent., or $7,125,000, was gold, leaving $7,875,000 as the average annual production of silver.

The silver product of the State of Nevada has been collated only for the six years ended December 31, 1876. During this period the average annual product was $19,000,000, and for the year 1876 by itself only $28,000,000, instead of $100,000,000 so confidently stated by the *Reichsanzeiger*.

The silver product of the United States during the same period was $155,600,000, making an annual average of $26,000,000; the product for 1876 by itself was $38,200,000. When these returns are contrasted with the computations which have hitherto obtained currency, it will be seen that the latter have uniformly and greatly exaggerated the production of silver in this country.

America, since its discovery, has been the chief source of the world's supply of the precious metals; and, as the proportion of silver in that supply was much greater prior to the California gold discoveries than it was in the Old World, either before or after the discovery of America, the opening of the American mines was followed by, if it did not cause, a considerable, although slow, widening of the relation between the two metals. Humboldt (Fluctuations in Supply of Gold, published in 1838) says:

> The relative value of gold and silver fluctuated during the first hundred years subsequent to the discovery of the new continent between 1 to $10\frac{7}{10}$ and 1 to 12; in the last two centuries, between 1 to 14 and 1 to 16.

Their relative value settled, however, about the middle of the seventeenth century, at between 15 and 16 to 1. In England it was fixed by Sir Isaac Newton, in 1717, at about $15\frac{5}{21}$ to 1. At the commencement of this century (1803) France conformed to the mean of the relations existing at that time by fixing it at $15\frac{1}{2}$ to 1. The fluctuations in the relative market value of gold and silver were unimportant during the present century until 1873, when the German and American laws to demonetize silver were enacted. The determination of Germany to enact such a law had been previously announced by the decree of December

4, 1871, and the American movements to the same end, which seem to have been better understood in Europe than in this country, were commenced as early as 1868.

The general money system of Europe had been that of the double standard until 1873. The conspicuous exceptions were Holland, which had been during much the larger part of its history a single silver standard country, and England, which had adopted the single gold standard in 1816 by law and in 1821 in fact. In consequence of the apprehensions of a fall in the value of money, or, what amounts to the same thing, a rise in wages and in the price of property, excited by the California and Australian yield of gold, Belgium adopted a single silver standard in 1850, and the German States in 1857. Belgium, however, returned to the double standard in 1861.

Germany and the United States demonetized silver in 1873. At that time it was neither depreciated nor unsteady in value, nor had any change occurred in the relative production, consumption, or distribution of the precious metals to indicate its depreciation in the future, nor was any actual or probable depreciation assigned as a reason for its demonetization. The average flow of silver to India was undisturbed, and the Big Bonanza in the Comstock lode was undiscovered. Manifestly, the real reason for the demonetization of silver was the apprehension of the creditor classes that the combined production of the two metals would raise prices and cheapen money unless one of them was shorn of the money function. In Europe this reason was distinctly avowed.

It cannot be successfully controverted that the sole causes of the recent disturbance in the relative value of gold and silver were the demonetization of silver by Germany, this country, and the Scandinavian states, and the closure of the mints of Spain, Holland, and the Latin Union against it. Twelve months ago two other causes were insisted upon, namely, the falling off of the India demand for silver and an enormous actual and anticipated yield of silver by the Comstock lode. The Asiatic demand is fully restored, and the actual silver production in Nevada is now not only more correctly understood, but discussion has established the general conviction, which has always been that of the soundest authorities, that no increase in the production of the precious metals which is at all probable would have any immediate appreciable effect upon either their combined or relative value.

Humboldt (Fluctuations, &c., 1838) says:

> In the modern world, the universality and rapidity of communication, which restore the equilibrium *as well as the amount of the accumulated masses of gold and silver already existing*, tend to render still more stable the relative value of the metals. * * * *The enormous masses of precious metal already accumulated in Europe* render any considerable or continued variation in the relative value of gold and silver impossible. Experience has shown this. In England, for instance, in the ten years from 1817 to 1827, more than 1,294,000 marks of gold [$180,959,000] were converted into money, and yet this monopoly of gold only raised the proportion of it to silver from 1 to 14.97 to 1 to 15.60. * * * Any increase in the production which our imagination could call into existence would appear infinitely trifling compared with the *accumulations of thousands of years now in circulation.*

Changes in the relative value of the two metals are entirely different from changes in their absolute value or, in other words, their value as compared with all other things. Thus one metal may have fallen greatly as compared with the other, and at the same time not only may not have lost, but may even have increased in purchasing power. In describing a divergence in the relative value of the metals, without reference to the purchasing power of either, it is as correct to say that one has risen in value as to say that the other has fallen. In fact, looking only

to the relation of the metals, both things have occurred. One has fallen and one has risen, each relatively to the other, to the full extent of the divergence. In order to ascertain whether silver has fallen or gold risen since 1873, not relatively to each other, but relatively to all other things a comparison must be made between general prices in gold and silver respectively, then and now. Such a comparison would show that the purchasing power of gold has increased since then in all countries, and that the purchasing power of silver has decreased in none.

The discussion of the use of silver as money involves several questions, which, if not divisible, are distinguishable; or, in other words, if so intimately connected as not to be susceptible of a separate decision, they are yet so distinct that it will subserve the purpose of both clearness and convenience to consider them separately.

The first is, whether the universal employment of silver as money coextensively and concurrently with gold in times past has been, upon the whole, justified by adequate considerations.

The second is, whether, if so justified heretofore, new conditions have arisen to make this employment of the two metals inexpedient at the present time.

The third is, whether the discarding of either of the two metals as money, would not cause such a fall in the prices of commodities and property, and consequently impose such unjust and ruinous burdens on debtors, individual and national, as to be justifiable on no plea of convenience, and defensible only on the plea of absolute necessity.

The fourth is, whether the employment of silver as money by the United States is a practicable policy in view of its actual demonetization in several countries and of its threatened demonetization in others.

The fifth is, whether, if the policy be practicable, it is demanded, or otherwise, by the commercial, industrial, and financial interests of the United States.

I.

OBSERVATIONS UPON THE GENERAL QUESTION OF EMPLOYING THE TWO PRECIOUS METALS AS MONEY.

The question of the desirability and utility of using both gold and silver as money metals has been decided in the affirmative by the general judgment and practice in all historical times. This statement may possibly require some explanation in respect of India and China, which contain the two greatest masses of human population, and, upon common estimates, rather more than one-half of the total population of the globe. Gold cannot take the place of silver as the money of those regions, because gold is too valuable to measure the small earnings and expenditures of their inhabitants. In India, under the British administration, silver is the only legal-tender. What the legal tender may be in China is obscure, but in respect to the inhabitants of both China and India, and more especially in respect to the ruder populations in other parts of Asia and in Africa, the legal-tender quality of money is of far less importance to them than it is to the highly civilized populations of Europe and America. The ramified system of credits, frequently on long time, and sometimes perpetual, which seems inseparable from a high civilization, is unknown to the majority of the human race, to whom the principal use of money is to make purchases, and not to pay debts. The amount of gold is small as compared with the amount of silver in the East. Gold is not the money of the East, nor are the prices there influenced

by its scarcity or abundance as they are by the scarcity or abundance of silver. But it is readily accepted as a precious commodity, at about its silver value in London.

In the presence of this general judgment of mankind in favor of using both the precious metals as money, it will be sufficient to state summarily some of the considerations which justify this judgment.

The fluctuations in the aggregate current supply of the two metals are less frequent and less violent than are the fluctuations in the supply of either metal, and consequently the fluctuations in the value of the two, used together as money under the double standard, are fewer in number and less in degree than would be the fluctuations in the value of either one of them, and the chances of avoiding the evils of an insufficient supply of money are much greater. No considerable simultaneous increase of both has occurred since the Christian era, with the single exception of the period when the mines of the New World were opened. Whenever one of the metals has been produced in unusual quantities, the production of the other has generally remained stationary or has declined, so that variations in the aggregate production have been restrained within endurable limits. Thus, there was no increase of the silver yield when gold was produced in unusual quantities from the Brazilian mines and during the first half of this century from the Russian mines. The production of silver remained steady during the first fifteen years of the working of the gold-fields of Australia and California, and did not increase until their productions declined.

Gold and silver are both fit for money, by all the necessary qualities of indestructibility, resistance to chemical changes, divisibility, general steadiness of combined production, and amount of combined stock, which is small enough to make them precious, and at the same time large enough to render them convenient in ordinary handling. They are the only metals which combine these qualities. With augmenting capital, increasing population, the continued spread of civilization and stable government, increased efficiency of machinery, and improved processes of mining, it may be that the production of gold and silver will be increased; but under the conditions named an increased production would be necessary for the preservation of the equilibrium between money and all other things.

The considerable difference in the value of the same weight of the two metals recommends the use of both as money. Gold, in any condition of purity heretofore adopted in coinage, cannot be used for ordinary retail transactions. A gold coin of the value of an average day's labor in Europe, or even in America, would be too small for handling; and in Asia, a gold coin measuring a month's wages would, be inconveniently small. It is very doubtful if any contrivance of coinage could make gold answer the purposes which silver has always answered in the smaller exchanges. The expedient of a gold coin of which the principal weight and bulk should be alloy may be suggested, but the genuineness and real value of such a coin would elude ordinary means of verification; and it is doubtful if it could ever be made to command that ready and universal confidence essential to money. It would be an experiment full of hazard. Silver is especially adapted for coins of small value, which are the only ones used by the masses of mankind, and may be used without inconvenience in the largest transactions as modern appliances have made it feasible to handle even the largest sums of silver without inconvenience. The two metals together fill but scantily the measure of the money needs of the world and they can only fill it upon

the condition that both are money in the fullest sense; and nothing is such money if it be restricted in its legal-tender function.

The combined stock of gold and silver is so large in comparison with the amount of their current production that variations in their current supply affect stocks only in a minute degree. A certain percentage of the current supply is constantly needed to keep the stock of the precious metals good against loss by accident, abrasion, and their absorption in the arts. But this is not all that is required. The rapid increase of the world in population and commerce demands a corresponding increase of the stock of the precious metals, in order that the relation between money and all other things may not be disturbed and that the ruin of productive interests by falling prices may be avoided. The greatest gold yield ever known was during the five years ending with 1856. The annual average production during that period was $150,000,000, while the silver production during the same period averaged annually only $40,000,000. This was an enormous increase of the annual gold supply and consequently in the aggregate supply; but the excess of supply in any one year was only an imperceptible addition to existing stocks, and so rapid was its absorption by the increased demands of business, that its effect on prices was not visible for several years, and the maximum increase of prices finally produced, and which was soon lost, did not exceed twenty per cent. Tooke says, (History of Prices, vol. 6, pages 158–194,) that notwithstanding the increase of metallic supplies from 1848 to 1856, there was in 1856 no "*corresponding increase of general prices; nor, in the case of large groups of commodities, any increase of prices whatever, but, on the contrary, prices rather sunk to a lower, than rose to a higher, level.*"

The stocks of gold and silver being much greater now than in 1848, they would be less affected by any new discoveries even of the same importance as those of California and Australia. So, also, new supplies of the precious metals absolutely as great as those of the years following 1848, would be of far less consequence in their relation to the vastly increased amount of commodities, exchanges, and population of the present time.

It is one of the common estimates that in 1848, the date of the California discoveries, the bullion value of the world's stock of plate, coin, and bars was $2,800,000,000 in gold and $4,000,000,000 in silver, but of coin and bars alone $1,200,000,000 in gold and $2,200,000,000 in silver. The total production of gold and silver in the five years ending with 1856 was $950,000,000, being an addition of only 14 per cent. to the total stock, inclusive of plate, or of 28 per cent. to the stock in coin and bars. The total production of gold alone in the same years was $750,000,000, which was an addition of 25 per cent. to the entire stock of gold including plate, and the still greater addition of 62½ per cent. to the stock of gold in coin and bars. In the twenty-eight years ending with 1875, the aggregate production of gold and silver was $4,582,000,000, which was an addition of 67 per cent. to the stock in 1848 of coin, bars, and plate, and of 135 per cent. to the stock of coin and bars. But in the same twenty-eight years, the production of gold alone was $3,215,000,000. This was an addition to the gold stock in 1848 in coin, bars, and plate of 115 per cent., and to the stock in coin and bars of 268 per cent. Estimates of the amount of the world's stock of the precious metals in 1848, or in any year, vary considerably, but on any estimate the two facts are illustrated that annual supplies affect stocks of the precious metals slowly, and that the stock of either one of the metals is more exposed to eccentric enlargement than is the aggregate stock of the two.

The magnitude of the stocks of silver and gold in the world is an element of steadiness in their value which is frequently overlooked. The familiar maxim that value is regulated by supply and demand, is applied to money in a very loose and inaccurate way. That supply, which is one of the principal factors in controlling the value of both commodities and money, is not the annual supply, but the entire stock in existence, including past accumulations as well as current production. In the case of wheat, cotton, and similar things, the amount of each harvest is so great in comparison with the amount left over from the previous harvest that supply and annual supply are frequently used as meaning the same thing; but the difference between the two is very considerable, even in respect to commodities of that description. The difference between the supply left over and the annual supply of the precious metals is enormous, and to describe their value as being controlled, or even much influenced, by their annual supply, is absurd. That supply, which is one of the controlling elements of their value, is their entire stock, old and new, just as it really is with wheat, the only distinction being that the annual supply is the principal part of the stock of wheat, while it is hardly an appreciable part of the stock of the precious metals. The value of the precious metals will be affected not by the entire current production but by the surplus which enters the circulation after consumption in the arts and all losses by abrasion and accident have been made good, and after supplying that new demand for money which results from the growth of population and from the enlarged uses always following an increase of money. No current supply was ever yet sufficiently great to affect the value of the precious metals except slowly and almost imperceptibly. The signs for the future are that the annual production will be deficient rather than excessive.

Tooke (History of Prices, vol. 6, page 232) says of the influx of the metals after the discovery of America in 1492:

> No rise of prices can be discovered until 1570, fifty years after the entry of the Spaniards into Mexico, and almost thirty years after the discovery of the Potosi silver mine. The ultimate range of prices was not reached until 1640.

This will appear the more remarkable when it is considered that the world's stock of gold and silver was exceedingly small when America was discovered. Chevalier estimates the stock in Europe at that time at only $193,000,000. It was greater in Asia, where some authorities conjecture that it may have been $1,500,000,000. But manifestly the whole stock was only a small fraction of what now exists, and consequently had far less power than the present stock to resist the disturbing influences of extraordinary additions. This steadiness of value, resulting from magnitude of stocks, will of course become still greater as stocks are hereafter enlarged.

The processes by which supply affects the value of money and commodities are essentially different. An oversupply of a commodity manifests itself in a surplus for which there is no effective demand, and which must be carried as a dead weight with the losses of interest, storage, and insurance, and in the case of most commodities, of waste and deterioration. The depressing effect on the market of an oversupply of commodities is out of proportion to the actual percentage of the oversupply. But in the case of the metals used as money, whatever the supply may be, there is no part of it which is a surplus or dead weight. It is all wanted and all wanted alike. There is an instant and ready use for the whole of it because it can be speedily coined and put into the circulation on an equal footing with the money already in circulation. Undoubtedly, if the demand remains the same, an increased

supply of the metals will finally affect their value, not immediately, however, because not visibly manifested by a surplus, and at last only in the same proportion as the entire stock has been increased by the increased supply. But the demand never does and never can remain the same when the production of the metals used as money is so increased as to raise the price of commodities. Commerce and all productive interests are instantly and decisively stimulated by rising prices. This fact has been signally illustrated during this generation. The extraordinary gold-production in California and Australia was quickly followed by a new demand for money which arose from that business activity and prosperity which always attend an increase of money. This demand soon overtook the new supply and already threatens to outrun it.

Money and commodities differ as much in the nature of the demand for them as they do in the effect of supply upon their value. The demand for money is universal, constant, and insatiable. Nobody ever had so much as to feel a loss or even a diminution of the desire for more. In business transactions it is never voluntarily parted with except with the hope of its return and with a profit. The effective demand for it, or, in other words, that demand which is accompanied by an ability to offer equivalents, is only limited by the extent of all the possessions of mankind, fixed and movable, and their total capacity to render services.

And by thus understanding exactly what supply and demand mean as applied to the metals used as money, the reasons for the steadiness of their value become apparent. Their supply is the accumulated stock of centuries, and the demand for them is measured by all the wealth and all the productive forces of man.

What is known as the double standard of value, is a standard based upon the two metals, gold and silver, by laws which establish a unit of value and account in each metal and declare the weight of pure gold and silver respectively, which the unit shall contain, and which also establish unrestricted coinage for both metals, and declare coins of both metals, respectively, which represent the unit and multiples thereof a legal tender in the payment of all debts, public and private, at the option of the debtor. The legal relation of value between the metals will be in inverse proportion to the weights of pure metal in the coined units of the two metals respectively. Thus, the weight of pure silver, 371.25 grains, in the demonetized silver dollar, or unit, was 15.9888 greater than that of the pure gold, 23.22 grains, in the gold dollar or unit, which was a legal valuation of a given weight of pure gold 15.9888 times greater than of the same weight of pure silver.

There can never be practically two money standards whose units of account differ in value in any country at the same time. It is all-important that the value of the standard should be unchanging. It is not important that the material which represents the value should be unchanging. It is of little consequence of what the material consists if it be portable, divisible, and indestructible, or, if destructible, that it can be replaced with facility. There should never be any hesitation in changing the material of money for the purpose of maintaining its value undisturbed.

Whenever, under the double standard, there is a variance between the legal and market relations of the metals the standard would be practically based on one metal, and it the cheaper and more available one. Whenever the legal and market relations of the metals coincide there would be duality in the material of the standard, but unity in its value which would make it in its all-important feature, a single standard.

The philosophy of the double standard is, that a rise in the value of money and a fall in general prices are the greatest evils which can befall the world, and its object is to prevent, as far as possible, the occurrence of these evils. It takes no precautions against a fall in the value of money, because in the whole history of the human race not a single instance can be pointed out of a fall in the value of either or of both of the metals which has not proved a benefaction to mankind; while on the other hand, during every period and whenever a rise in the value of metallic money has occurred, it has been attended by financial, industrial, political, and social disaster. An increasing value of money and falling prices have been and are more fruitful of human misery than war, pestilence, or famine. They have wrought more injustice than all the bad laws which were ever enacted. Under the double standard these evils could never occur, except by a rise in the value of both metals, while under the single standard they might be caused by a rise in the value of one of them.

The statement sometimes made that the two metals never in fact circulate indifferently and concurrently is not true. Notwithstanding the legal relation of value between the two precious metals established in 1792 in this country did not coincide exactly with the market relation, yet they circulated concurrently, with perhaps a preponderance of silver in the circulation until 1821, when the resumption of specie payments in gold by the Bank of England caused an advance in the value of gold and a consequent widening of the relation of value between the two metals. (See papers on the currency appended to the report made in 1830 by Mr. Ingham, Secretary of the Treasury.) Also, after the change made in 1834 in the legal relation of value between the two metals, they circulated concurrently until about 1850, although on account of the undervaluation of silver by the law of 1834, there was a constant tendency to an exportation of silver in the settlement of foreign balances. The draining of a country of its silver coins is necessarily slow, as they are less in value than gold coins, and are consequently diffused among a vastly greater number of holders. It is for this reason that silver has less fluidity of circulation than gold, and presents greater obstacles to its concentration in large masses. The dangers of a financial panic occasioned by sudden and violent outflows of the money of a country are therefore less where the circulation is largely of silver than where it consists wholly or principally of gold.

The legal relation between gold and silver was fixed in France by the law of 1803 at 15½ to 1. This was substantially the market relation throughout the world at that time. After the passage of that law the two metals circulated concurrently in France with the preponderance in the circulation sometimes of gold and sometimes of silver, until recently, when the coinage of silver was interdicted in the mints of Europe and the United States. The coincidence of the market with the legal relation of the two metals during nearly three-quarters of this century cannot be supposed to have been due to steadiness in their relative supply, nor to steadiness in the relative cost of their production, for during this period there had occurred the widest fluctuations in both the cost of production and in the amount produced. It must have been largely due to the French double standard law of 1803 which was a ligature so strong, and which bound the metals so firmly together, at the relation of 15½ to 1, that neither the extraordinarily varying relative supplies of the two metals from the mines of the world, nor the fitful demands of single-standard countries for their particular money metal could force them nearer together or wrench them further

apart, except locally, temporarily, and in a trifling and unimportant degree.

If the United States should resume specie payments under the double standard, with the same legal relation of value between the metals as exists in France, there could not be a reasonable doubt that these two great commercial countries would be strong enough to preserve a coincidence between the legal and market relations of the metals, and thereby preserve their concurrent use as money. The United States is now relatively a greater commercial and financial power than was France in 1803, and with greater opportunities for growth and development, and could alone exert a steadying influence on the relation of the metals more powerful than France was able to exert.

Under the double standard the debtor may, at his option, avail himself of money coined out of either metal in the payment of his obligations. This option is of no practical importance, except when a variance between the legal and market relations of the metals becomes sensible. Neither does it work any injustice, nor is it, in fact, confined to one side of any transaction. The creditor is swift to avail himself of it when he lends money, and he never lends in the metal which for the time being happens to be the dearer one. He cannot claim, therefore, that it is his equity to be paid in the dearer metal, and he never is so paid unless, between the dates of lending and of being paid, the double standard is abrogated, so that he is enabled to exact what he did not lend. The debtor may justly complain if he is forced to pay in the dearer metal or money, which he never receives when he borrows. The enormous aggregate of debts in this country, public and private, were contracted by borrowing national paper currency or in the purchase of property at paper-currency prices. It is urged that the debtors ought not to complain if they are forced to pay these debts in specie, and that they ought to have foreseen that the resumption of specie payments in the near future was probable, and that the right of paying in paper currency might be taken away from them. But it cannot be said that they ought also to have foreseen that the option of paying in silver, which had always been theirs, would be taken away and that they would be condemned to pay in gold alone, and not only that, but in gold enormously appreciated in value, if other important double-standard countries should follow our example and make it their sole standard of values.

If it were ordinarily, or even frequently, the case that changes in the relative market value of the metals were caused by a fall in the value of one of them, as compared with all other things, rather than by a rise in the value of the other, it would to some extent tend to strengthen the theory of the advocates of a single standard, that the workings of the double standard are inequitable. But if, on the other hand, it can be shown that the changes which have heretofore occurred in the relative market value of the metals have been invariably occasioned by a rise in the value of one of them, and not by a fall in the value of the other, and if it be probable, if not certain, that so long as the natural operation of the double standard is not interfered with this will be the case hereafter, then the justice of making payments in the most available metal could not be disputed, and the double standard instead of impairing would preserve the equity of contracts.

All the changes that have occurred in the relative value of the metals during the present century, except those which took place after the demonetization of silver by Germany and the United States and the general closure of the mints against it, are clearly traceable to a rise in the value of one of them by reason of an extraordinary demand of single-standard

countries for their particular money metal. In no instance can any fall be shown to have taken place in the value of the other, as compared with all other things. In 1821, when the Bank of England resumed specie payments in gold, a change occurred in the relative value of the metals in the London market. Silver fell relatively to gold, but there was at that time no decrease in the demand of the world for silver, which was still accepted as money everywhere except in England. No change had then recently taken place in the relative production of the metals, nor had England any silver with which to frighten or affect the market. The supply of and the demand for silver was unchanged at that period. It is clear, therefore, that in that instance the change in the relative value of the metals in the London market was not due to a fall in silver but arose wholly from the new demand for gold and from a rise in its value.

When in 1859 such a change occurred in the relative value of the metals in the London market as to carry up the London quotation of standard silver to $62\frac{1}{16}$ *d.* per ounce in gold, no recent change had then taken place in the relative production of the two metals to cause a change in their relative market value. Gold had been produced in unusual quantities since 1848, but the effect until 1859 had been merely to produce a gradual and not very great fall in the value of the two metals combined as compared with other things but not in their relative value. The demand for gold was as strong and steady as it had previously been. The commerce of gold-using countries was as active as ever, and the gold prices of commodities underwent no marked change during that year. But, on the other hand, there was an unprecedented demand for silver in England for export to Asia. In that single year the silver export from Great Britain to the East was £14,828,521, or over $70,000,000, which was double the amount of the then annual silver product of the entire world. The unprecedented price of silver in London in 1859 was therefore manifestly due to the extraordinary demand for it in that market, and not to a fall in the value of gold as compared with the value of all other things which it is the function of money to measure.

In respect to the disturbance in the relative market value of the metals which followed the German demonetization of silver, it could be shown from a comparison of prices in silver in 1873 and 1877 that that metal has more than maintained its purchasing power over everything except gold. In 1873, 60 *d.* in gold would purchase an ounce of standard silver in London. In 1877 it only requires 54 *d.* to buy the same amount. It is within the knowledge of all that 54 *d.* will now buy, in England, or in any other country, more real estate, more labor, and more of the general commodities which the world deals in, except silver, than 60 *d.* would in 1873. The exchangeable value of an ounce of standard silver is therefore greater than it was four years ago. While the general purchasing power of silver has thus been maintained it would be an inexcusable blunder to deprive it of its debt-paying power, and of its power, as money, to check the fall in prices which is now striking as with a palsy the limbs of commerce and industry.

It is of the highest importance that the relations of value between money and all other things should be preserved with as little disturbance as possible. All experience shows that this important end can be more nearly attained under a money system based on both metals, and through the use of the cheaper metal whenever a change occurs in their relative value. The industrial and economical world find their principal occupation in the production and distribution of those things which are necessary for human wants, and which minister to human

comfort and happiness. They are not engaged in juggling with different kinds of money or in exchanging coins for the small premium which it may be possible to obtain occasionally for the one over the other. Under normal conditions, these premiums are but insignificant, and if it be true that the changes in the relative market value of the metals, which make any premium possible, are local and temporary, and are caused by a rise in the value of one of them and not by a fall in the value of the other, then they are changes which do not affect injuriously double-standard countries. It is the single-standard countries which suffer the evils of falling prices caused by an enhanced value of their money, while it is the double-standard countries which enjoy the benefits of the use of a money which is the better because the steadier in value. It is the single-standard countries whose money metal is temporarily the dearer which pay these premiums, and it is the double-standard countries which receive them. Thus, after 1821, this country sold gold to England at a premium of from 5 to 8 per cent. In more recent times France sold silver to India at a large profit, and at the present time the Germans are paying a heavy premium on gold, which is inaccurately described as the sale of silver at a discount. This premium on gold is for them a loss without any compensation, and so far as they have proceeded in the policy of establishing a gold standard, it has proved an unmitigated injury to the commercial and industrial interests of the world and especially of Germany.

The small aberrations which may occur in the relative value of the two metals, are of no importance in comparison with the overwhelming ruin which would attend such a fall in prices as would be caused by discarding one of the metals. The trifling disturbance in commercial transactions which may result from an occasional petty brokerage in the exchange of the metals, justifies no such violent measure as the demonetization of either of them. Such a remedy would be absurdly disproportionate to the evil, and would be much worse than the disease. The great interest which the world has in the general steadiness of the value of money as compared with property and services, should not be sacrificed in order to escape a theoretical and fanciful inconvenience.

But even if, through the monetary legislation of important countries, or from any other cause, the value of one of the metals should fall, not only relatively to the other, but in its relation to other things, such fall could only manifest itself in a rise of general prices. It will be reassuring to remember that no fall in the value of metallic money nor a resulting rise in prices have ever proved other than a blessing to the world.

The first instance of the establishment of a single gold standard was that in England, in 1816, under the administration of the second Lord Liverpool. This policy, as may be assumed, was adopted in furtherance of the views put forth in the celebrated letter on the coinage (1805) of the first Lord Liverpool to the King. In that letter, no better nor more plausible argument was presented in favor of the adoption of an exclusive gold standard than this one, that alternate changes from silver to gold and from gold to silver, in the actual circulation, resulting from fluctuations in the relative value of those metals, were a "*great detriment to the public.*" Lord Liverpool did not point out the nature of the "*detriment*" caused by such changes, nor has it ever been pointed out by any of the advocates of a single-standard. Even if it be admitted that such fluctuations in the relative value of the metals may occasionally occur in the future, as they have in the past, and that first one and then the other will, at intervals, preponderate in the channels of circu-

lation, as it has not been shown that they have caused any substantial injury or even inconvenience in the past, it is not probable that they will cause any in the future. The general public would be subjected to neither inconvenience nor loss in such changes. The smaller coins used in retail transactions will always necessarily be silver coins. In the larger transactions representative paper, based on both of the metals, would, on account of its greater convenience, be universally used in specie-paying countries. The inconvenience arising from a gradual displacement in the reserves of banks and of public treasuries, of one metal by the other, would scarcely be noticed by the managers of those repositories, and would not be felt at all elsewhere.

II.

THE EMPLOYMENT OF BOTH GOLD AND SILVER AS MONEY HAVING BEEN HERETOFORE REGARDED AS DESIRABLE, HAVE NEW CIRCUMSTANCES ARISEN TO MAKE IT OTHERWISE AT THE PRESENT TIME?

Under this head it will be sufficient to discuss the more limited question, whether new circumstances have arisen to make it expedient to discard silver, as the discarding of the other metal is not proposed. Some reasons for and against discarding either apply equally to both. But others apply only to silver; and still others apply to that particular metal with peculiar force.

It might be expedient, or even necessary, to abandon the double standard if, *first*, the combined production of both had increased and was increasing to such a degree, in comparison with augmenting needs for money, as to threaten their serious depreciation, and such an increase of the prices of commodities as would derange commerce and subvert the justice of contracts; or if, *second*, it could be demonstrated that fluctuations in the relative supply of gold and silver produced immediate effects upon their relative value, and that silver was being produced in such abnormal excess, and gold in such abnormal deficiency, considering the demands for both metals respectively, as to threaten such a continuing and indefinite widening of the relation of value between them as would render necessary frequent changes in their legal relation; or if, *third*, there were such changes in the habits of mankind, or in the amounts of money used, as to render silver, by reason of its weight and bulk, less fit to be employed as money than formerly.

INCREASED YIELD OF GOLD AND SILVER SINCE 1848.

The first supposed case, of a depreciation in the value of gold and silver by reason of their excessive production, involves a wide range of discussion. It is proposed specially to consider the increase of the production and stock of the precious metals since the California discoveries, the effect of that increase on prices and productive industry, and the necessity of a continuing increase to meet the demands of the increasing population and commerce of the world.

The gold yield of Australia and California was at its maximum in the five years ending with 1856. The aggregate production of both metals was also at its maximum during the same period. Since then the combined annual production of the two metals, instead of augmenting, has diminished. The annual production of silver has increased, but that increase has been more than counterbalanced by the annual decrease in

the yield of gold. Since 1848 the great bulk of new gold has been yielded by our Pacific States and by Australia, and nearly all of it from alluvial washings, which are yielding less year by year. It is not controverted that all the probabilities are that the auriferous production of both regions will continue to fall off, although perhaps slowly. It is true that new sources of supply may be discovered, but it is improbable that new sources equally prolific will ever be discovered, and it is only barely possible that they will be discovered and made available within any near period. It has been said that, "unlike agriculture, there is but one crop in a mine;" and it may also be said that the greater the number of mines and gold-fields worked out, the less chances there are of finding new ones. Discoveries are hoped for in Africa, on the Amazon, and in the Guianas; but in all those regions the development of new mines, if, happily, they should be discovered, would be retarded by tropical heats and diseases, by the barbarous character of the populations, and by the lack of stable governments and consequently of efficient protection of life and property. In California and Australia there were discovered almost simultaneously the richest and most extensive gold-fields of which there is any record. Their development was directed by the genius and prosecuted with the energy of the foremost races of the world, who were favored by all the advantages of free and stable governments, well-administered laws, unlimited access to capital, healthy and invigorating climates, together with facilities for attracting great supplies of labor. Such a combination of circumstances, never before known, may never occur again; and, as it is now certain that the California and Australian production of gold has distinctly passed the culminating point, all sound reasoning admonishes mankind to prepare for a steadily-decreasing yield of that metal. And it is never to be forgotten that in view of the rapid increase of the population, commerce, and money-wants of the world, a stationary supply of the money metals would have all the paralyzing effects which a diminishing supply would have, if population, commerce, and money-wants remained stationary. The steadiness of general prices can only be maintained when money and population increase in equal relative proportions. General prosperity and a general fall in prices never did and never can co-exist.

ORIGIN OF THE SCHEME OF DEMONETIZATION.

The scheme of demonetizing one of the metals throughout the western world originated soon after the discovery of gold in California and Australia, at a time when the yield was at what has since proved to have been its maximum, but which was then expected by many to continue on an ascending scale for an indefinite period. An eminent English writer (De Quincey) published at that time an elaborate collation of current accounts, from which he arrived at the conclusion that the annual outturn of gold would soon reach seventy millions sterling, or $350,000,000. On the basis of such expectations, the governments of Europe were invoked by Chevalier and others to prevent the anticipated depreciation in the value of money, or, in other words, the anticipated rise in general prices, by the demonetization, not of silver, but of gold.

Chevalier (Fall of Gold, 1856–'57) said:

> The quantity of gold annually thrown on the general market approaches, in round numbers, a milliard of francs, ($200,000,000.)
>
> Those two countries (California and Australia) must, for yet a long series of years, produce gold in such quantities and on such conditions as to render a marked decline in its value inevitable.

It is absolutely certain that so vast a production should be accompanied with a great reduction in value.

In no direction can a new outlet be seen sufficiently large to absorb the extraordinary production of gold which we are now witnessing, so as to prevent a fall in its value.

Unless, then, we possess a very robust faith in the immobility of human affairs, we must regard the fall in the value of gold as an event for which we should prepare without loss of time.

Under these appeals of Chevalier and others, several nations in Europe, notably Germany and Austria in 1857, demonetized gold. It is probable that the movement in that direction would have become universal in Europe but for the resistance of France. It was changed, at least as early as 1865, into a movement for the demonetization of silver. In the convention of 1865, in which the Latin union was formed, Belgium, Italy and Switzerland insisted strenuously upon the adoption of the gold standard, but were overruled by France. But this change, from demonetizing gold to demonetizing silver, was more of form than of substance. The object aimed at by both was through a disuse of one of the money metals to protect the creditor classes and those having fixed incomes against a fall in the value of money and a rise in general prices. This is the pith and marrow of the monetary discussions of the last twenty-five years.

In the official *résumé* of the doings of the French monetary commission of 1869, the arguments upon both sides were summed up.

In behalf of the gold standard it was said:

The rise in price which has taken place within twenty years in a great number of articles of merchandise is evidently due to many causes, such as war, bad harvests and increase in consumption; but it is very probable that the depreciation of the precious metals has contributed to it, since there has been a striking coincidence between the rise of prices and the production of the new mines of gold and silver. The annual production of the two metals, which was only $80,000,000 in 1847, exceeds now $200,000,000. It has nearly tripled, and it is easy to see that the real value of the metals has diminished. It is difficult to estimate exactly what the diminution is; but, whatever it may be, it demands the attention of governments, because it affects unfavorably all that portion of the population whose income, remaining nominally the same, undergoes a yearly diminution of purchasing-power. As governments control the weight and standard of money, they ought, so far as possible, to assure its value. And as it is admitted that the tendency of the metals is to depreciate, this tendency should be arrested by demonetizing one of them.

In behalf of the double standard it was replied as follows:

Many economists argue that the precious metals, having become very abundant, have lost 10 or 15 per cent. of their value, and that the situation must be redressed by making money scarcer by demonetizing silver. To this it may be answered that the great discoveries of gold of the last twenty years have injured nobody. The new mass of gold, spreading over the whole world, has found employment in stimulating all forms of business, and, as a consequence, the value of gold has fallen very little. According to Mr. Newmarch, the mass of gold and silver has augmented 3 per cent. per annum, while the mass of exchanges has augmented more than 3 per cent. per annum, so that the equilibrium has been maintained. And the present is an especially inopportune time to demonetize silver, because the annual production of gold has been falling off for several years. It was $200,000,000 in 1853, and it is now not more than $140,000,000. What will happen to the civilized world if silver is demonetized and if gold shall then fail?

The Dutch monetary commission of 1873, adopting the views of the advocates of a gold standard, maintained that the value of money had been depreciated by an excessive gold production since 1848, and that, as a great gold production still continued, a rise in the value of gold would not occur, even if a greater share of the monetary function was devolved upon it, by demonetizing silver. Their language was:

In consequence of the very great production of gold, it is not probable, even if gold is more employed as money than heretofore, that we shall see the fall in the value of the precious metals, which we have witnessed for twenty-five years, followed as to gold by any permanent rise.

In all the European discussions, after 1848 and prior to the German demonetization of silver and its consequences, the point made was not that either metal had depreciated relatively to the other, but that by reason of extraordinary supplies of gold from California and Australia, supplemented, about 1865, by new supplies of silver from Nevada, both metals had depreciated relatively to labor and commodities, and that those having fixed incomes were being injured by a rise in prices. So long as the double standard existed, a new supply of either metal was only an addition to and only affected the value of the general mass of money and not the relative value of the metals.

The "fall in gold," which Chevalier lamented in 1857, was its fall in relation to property. He pointed out how the double standard had prevented any change from occurring in its relation to silver, and how it would continue to do so until the silver of double-standard countries was exhausted. In order, therefore, to protect the interests of the income classes, it was claimed to be necessary to demonetize one of the metals, and gold being the metal which then promised the most abundant yield was selected for the purpose.

It was the depreciation in the value of the precious metals and of money, supposed to have already resulted from the new supplies of gold, which made him the conspicuous advocate of the demand that one of the metals should be demonetized in order to "*redress the situation.*"

In the conference of 1865, which resulted in the formation of the Latin Union, Belgium, Italy, and Switzerland, in insisting upon the demonetization of silver, were not influenced by either its actual or anticipated depreciation relatively to gold. The annual silver production of the United States was then only eleven million dollars. In 1871, when Germany decreed the demonetization of silver, the relative value of gold and silver was steady and unchanged and no change was apprehended. As Germany then had the single standard of silver, changes in the relative value of gold and silver in the London market, unless very large, could have been of but little importance to that empire. It was not a fall in the value of gold relatively to silver which caused Germany to demonetize gold in 1857, neither was it a fall in the value of silver relatively to gold which induced that empire to demonetize silver in 1871. In both cases Germany was governed by one and the same apprehension, that the mass of money, or of the precious metals combined, was undergoing a depreciation, and that the adoption of a single standard was needed to "*redress the situation.*" And it is apparent that it was quite indifferent to Germany which metal was selected for the standard.

The change of movement, from demonetizing gold to demonetizing silver, resulted from two causes. The first and principal one was the discovery that the immobility and tenacity of the English character made a European union upon a single metal other than gold impossible. The second was the discovery of the Nevada silver mines.

In 1861 the Washoe region, or Comstock lode, began to attract attention. In 1863, three thousand silver-mining companies had been organized in San Francisco, with a nominal capital of $1,000,000,000, and with thirty thousand stockholders. European interest was so much excited that the French Emperor sent a special commission to examine these mines. The ideas largely prevalent in 1868 may be found in a report of Ross Browne, an official agent of this Government, which was extensively circulated, under the title of "Resources of the Pacific Slope." Mr. Browne said, in that report:

> They [the precious metals] are now increasing more rapidly than is the demand for them, and, at the present rate of increase, they would soon have to fall perceptibly;

but the production will become much greater than it is. * * * If all the argentiferous lodes of Mexico, Peru, and Bolivia, known to be rich, were worked with the machinery used at Washoe, their yield would really flood the world. * * * New deposits of silver will be found, and innumerable rich lodes on the Pacific Slope of the United States, not yet opened, will be worked with profit.

These sanguine expectations in respect to the yield of silver, like the previous expectations in respect to the yield of gold, have been baffled by the event; but they were sincerely entertained, and were largely instrumental in alarming the moneyed capitalists of the world and inducing them to exert their power and influence with various governments in the direction of demonetizing silver. Their fear now was, not that the increased yield of silver would depreciate that metal relatively to gold, but that it would produce a fall in the value of money, consisting of both metals, as the yield of gold had previously done, and cause a rise of general prices, to the prejudice of the income and creditor classes.

EXAGGERATIONS OF THE SILVER YIELD.

What we are now witnessing, and have witnessed since 1856, is a decrease in the annual yield of gold, exceeding in amount the annual increase in the yield of silver. All the probabilities point to a continuance of this reduction in the yield of gold in the future. If there is danger of an undue increase of the production of the two metals combined, or if there is any good foundation for the hope that the combined production can be kept up to the point of correspondence with the increasing need of money, it is to be found in a still further increase in the yield of silver, and, for the present, in such increase in this country.

From the conditions surrounding its production, it is not reasonable to suppose that the supply of silver from Mexico, Central America, or South America, will vary much in the future, certainly not in the immediate future, from what it has long been in the past. Their production of silver is now decreasing rather than increasing. The condition of things in all those countries is too stationary in respect of population, capital, skill, and political situation, to justify the expectation of any great increase in their silver product. The United States, is the only highly progressive nation which possesses silver mines of importance. There are none in Europe or in the British colonies, which are known and worked. It is the mines of the United States which have furnished the entire increase of silver which has occurred since 1860, and it is from these mines only, according to all appearances, that this increase can be maintained or carried to still higher figures.

Tabulated statements of the production of silver were submitted to the British parliamentary silver commission of 1876, by Sir Hector Hay, a bullion broker of London, who was referred to by that commission as a very high authority. These tables cover a period of twenty-four years, from 1852 to 1875, both inclusive. They give the annual production of silver outside of America, without any variation from year to year, at £2,000,000, or $10,000,000. This estimate must include the silver extracted from Spanish lead and other argentiferous imported ores in the refineries of England. During the first two-thirds of these twenty-four years, the annual production of Mexico and the countries south of it is put down, without yearly variation, at £6,000,000. But in the last third of these twenty-four years there are some yearly variations, although not great, and the average annual yield is estimated at £5,125,000. In each of the two last reported years, 1874 and 1875, it was £5,000,000. Upon the whole, the production of the world, outside of America, may be taken as small, unimportant, and stationary. In Mexico and the

countries south of that republic it is large and important, but in the immediate present decreasing rather than increasing. Undoubtedly capacities for and possibilities of increasing the yield of silver exist there, but where a business like that of silver-mining has been prosecuted steadily and continuously for nearly four centuries, great and sudden changes either in the methods or results of mining may not be expected except under some such remote contingency as the occupation of Mexico by the people of the United States.

In 1800, according to Humboldt, the annual silver-production of Mexico and the countries south of it was £7,071,831. During the period from 1809 to 1829, in consequence of the revolutions against the Spanish government, it fell, according to Jacob, to an annual average of £3,109,000. As has been seen, it subsequently advanced to an annual average of £6,000,000, and stands now at about £5,000,000.

The average annual yield of silver in the United States during the five years ending with 1875 was $23,800,000. As no silver was produced in this country during the five years ending with 1856, it results that the world's average annual yield of silver in the five years ending with 1875, as compared with the five years ending with 1856, increased $23,800,000 in the United States, diminished $4,353,130 in Mexico and the countries south of it, and was stationary elsewhere. Comparing those two periods, the net increase of the world's annual silver-yield was therefore $19,446,870.

More than one-half of the silver-product of the United States is from the Comstock lode. A sudden cessation of the yield of that lode is not to be expected. An average depth of 1,800 feet having been attained, it may be safely presumed that the culminating point of its production has been reached, and that a decrease is probable in the near future. (See minutes on silver-production.) That such is the judgment of the community where these mining-properties are located, and where they are principally held and best known, is shown by the declining market-price of the stocks representing them. The utmost that can be hoped for is that the total supply may be kept up by increased vigor in the working of the lower-grade argentiferous veins which are found so abundantly in the Rocky Mountains and westward to the Sierra Nevada. But, from the slowness which characterizes the development of ordinary silver-mines, it is not probable that their yield will increase as rapidly as the yield of the Comstock lode will diminish.

All that can be safely said on the possible discovery of new and great bonanzas is that the chances are against such discoveries within any near period. More than three centuries elapsed between Potosi and the Comstock lode, and it is a fact of observation, both in respect to silver bonanzas and great gold-fields, that they are separated by great spaces of geographical distance. It certainly cannot be proposed to predicate legislation upon the possible discovery of new gold-fields like those of California and Australia or of new silver-lodes like those of Potosi and the Comstock.

So far as the future of silver-mining in the United States depends upon the increased working of ordinary silver-mines, it is safe to assume a steady advance as capital and labor become more abundant and as the means of access to the regions in which those mines are found are multiplied and improved. But experience has shown that rapidity in such advance is not to be expected. It takes time to inspire capital with confidence in such investments, and the more so because the needed capital must be drawn, to a large extent, from points remote from the localities of the mines. No increase in the yield of silver in the im-

mediate future seems, upon the whole, to be probable, and it is still less probable that there can be such an increase as will compensate for the continuing decrease in the yield of gold. And even if this should be the case, there would be no increase in the aggregate supply of the two metals, which is now scarcely sufficient to meet the money needs of the world's advancing population and to keep the existing stocks good against loss by accident and abrasion and consumption in the arts.

According to the estimates of Tooke and Newmarch, the gold-yield of the world during the first five years of the California and Australian developments, ending with and including 1856, averaged annually £29,176,000, and during the five years ending with and including 1875, £20,308,200, showing an average annual reduction in the latter period of £8,867,000.

According to the estimates of Sir Hector Hay, the gold-yield of the world in the five years ending with 1856 averaged annually £29,935,000, and in the five years ending 1875, £19,640,000, showing the larger reduction of £10,295,000.

The smaller of these two estimates of reduction in the yield of gold is considerably larger than the increase in the yield of silver during the five years ending with 1875, but the silver-yield of the United States is now greater than $23,800,000, which was its annual average during the five years ending with 1875. By so much as it is greater, so much more nearly does the silver-increase offset the gold-decrease. But on no estimate is the offset a complete one.

It thus appears that the aggregate production of the two metals has declined since 1856, and that the probabilities are at least as strong of a future decline as of a future increase. But it has been urged that the yield of the two metals in 1856 was much too great, and that the yield for the last twenty years on a scale somewhat but not much declining has been in excess of the legitimate wants of commerce and increasing populations, and that the continuance of the production on an equal scale would tend to depreciate the value of money and to increase the prices of commodities to an injurious and dangerous extent. If this is true, it would tend to indicate and excuse the demonetization of one of the metals as a measure necessary to protect the interests of creditors.

Undoubtedly the largely-increased out-turn of the two metals for the five years ending with 1856 produced a general increase of prices throughout the commercial world. But no evils resulted from this increase, which, on the contrary, so stimulated productive industry as to be of immense benefit to all classes, including creditors. But whatever resulted, the fact is an accomplished one. The world has accommodated itself to the new range of prices, and to demonetize either metal in order to restore the old range would bring on evils vastly greater than those sought to be remedied. There is no rule of equity or expediency which requires the world to go back to the prices of 1848, which would not require it to go back to the prices before the discovery of America. The vital questions to be decided are, whether the yield of the precious metals has been more than sufficient to maintain the range of prices attained from 1856 to 1865, and whether the present and prospective yield promises to do more than this for the future, and whether it is not more probable that the utmost yield of the two metals combined, which can reasonably be expected, may prove too small for the world's rapidly-growing wants, and cause a fall rather than a rise in general prices.

It is not proposed to enter upon the question still in dispute as to the most accurate mode of calculating an average of prices, but to state the conclusions upon which there is a substantial agreement. These conclusions are—

1. That from the beginning of the revolutionary troubles in South America in 1809 to the opening of the California mines in 1849 there was a continuous rise in the value of money and a corresponding fall in the price of commodities. According to Jevons, money increased in purchasing-power during this period 145 per cent.

2. That after 1849 there occurred a fall in the value of money and a rise in the price of commodities, which reached their maximum about 1865. During this period, according to the same authority, the purchasing-power of money decreased 15 per cent.

3. That this decrease in the purchasing-power of money has since then been quite overcome, and that its command over property is at least as great as it was in 1849, and very much greater than it was in 1809.

These conclusions relative to values and prices refer solely to the relation between money and property, and not to the relation between money and labor.

It is plausibly maintained by many economists that an increasing volume of money has a greater and more immediate effect in increasing the wages of labor than it has in increasing the prices of commodities. One reason given for this is, that an increasing volume of money, while it stimulates industrial enterprises, at the same time furnishes the means to so organize and classify labor as to make it more effective, so that, although there may be a nominal and, so far as the workman is concerned, an actual advance in wages, the real cost of labor to the employer is not increased. It is probable that the main and governing cause for the increased efficiency of labor is to be found in the moral effect which increased wages and steady employment have on the workman. They inspire him with a confident hope of bettering his condition. This hope imparts vigor to his arm and willingness to his mind. It stimulates his mental and especially his inventive faculties. Every period of increasing money has been marked as the most fruitful in the inventions of labor-saving machinery. These inventions, while they cheapen the cost of commodities, increase the demand for them to an extent fully as great, and do not diminish either wages or the demand for labor.

There is a diversity of opinion as to the exact dates at which prices may have risen or fallen and as to the exact extent of such rise or fall; but it is universally conceded that the great increase of the world in commerce, in wealth, and in the population of its civilized portions, following and caused by the California and Australian discoveries, has more than kept pace with the yield of the precious metals since 1865, and that in or about that year, the rise in general prices, caused by these discoveries, was distinctly checked, and that they have since shown a large decline. This decline has been undoubtedly aggravated by the demonetization of silver in several commercial countries.

The suspensions of specie payments in Russia, (in 1857,) in the United States, (in 1862,) and in Italy, (in 1866,) all within twenty years, not only liberated a very large amount of specie, which was exported to specie-paying countries, but cut off the demand of the suspending countries for the supplies of gold and silver which would have been required to keep up their stock of money if it had remained metallic. Were it not for this extraordinary supply and decreased demand, it is more than probable that the specie prices of commodities would now range lower than they did in 1849. It is certain that a resumption of specie payments in all or either of the three countries named would make such a demand for specie as would greatly appreciate its value, and force prices to a much lower level.

The still-continuing suspensions which occurred in the Argentine Confederation, (in 1857,) in Peru and Austria, (in 1868,) and in France (in 1870) also diminished the demand for specie and increased its supply to the specie-paying countries, but in much less measure than the suspensions in Russia, Italy, and the United States.

The increase of the world in population, wealth, and commerce is still continuing. The stock of metallic money will consequently become inadequate if it remains stationary, and still more suddenly and greatly inadequate if it should be reduced by the demonetization of either of the precious metals. The progress of mankind, in the particulars mentioned, has a most important bearing on the question of demonetizing silver. It will require the highest possible production of both metals, if that progress is to continue in the future as great and rapid as it has been in the past. In general, we know that this progress has been very great during recent years, but the statement of certain particulars may give a more exact and just idea of it.

The following is a statement of the aggregate exports and imports of the three leading commercial nations, Great Britain, France, and the United States, during five successive decades, the whole covering the half century ending with and including 1874:

Periods of ten years ending with and including—	Aggregate of imports and exports.
1834	$8,333,656,168
1844	11,501,879,982
1854	17,495,140,919
1864	32,751,773,519
1874	51,915,727,739

In the ten years ending with 1854, although the new supplies of gold affected only the latter part of that period, the increase was more than 50 per cent.

A comparison of the ten years ending with 1874 with the ten years ending with 1854 shows that commerce nearly trebled in those twenty years.

These comparisons show how new uses absorbed the new supplies of gold, so as to prevent an increase of prices. Another mode of stating it may be that the new supplies of gold rendered possible the enlarged operations of commerce. And, doubtless, both modes of statement are necessary to cover all the aspects of the fact.

In the following tables, the advance of each of the three leading commercial nations is separately stated:

GREAT BRITAIN.

Decade ending—	Aggregate of imports and exports.
1834	$4,646,225,000
1844	6,343,900,000
1854	9,893,215,000
1864	18,019,165,000
1874	28,500,555,000

FRANCE.

Decade ending—	Aggregate of imports and exports.
1834	$1,913,000,000
1844	2,741,400,000
1854	4,088,000,000
1864	8,327,200,000
1874	12,728,400,000

UNITED STATES.

Decade ending—	Aggregate of imports and exports.
1834	$1,774,431,168
1844	2,416,579,982
1854	3,543,925,919
1864	6,405,408,519
1874	10,686,772,639

In Italy the public revenue increased from $250,000,000, in 1861, to $550,000,000, in 1873; and the aggregate of imports and exports from $330,000,000, in 1869, to $454,000,000, in 1872.

Without multiplying illustrations, it may be said that commerce has everywhere wonderfully increased under the stimulus of the great supplies of gold from California and Australia. The London Economist of May 11, 1865, said:

> We find here [in Great Britain] our external trade doubled in the last twelve years, and this external trade is, we believe, but a faint representation of the increase of transactions throughout the whole of our domestic industry. But not only has this multiplying process been carried on in those islands; it has prevailed almost as largely in France and has spread all over Germany. It has filled Italy, aroused Spain from its long lethargy, and penetrated even to the remote provinces of Russia. No corner of Europe has remained insensible to the new stir of industry and enterprise. All these facts are indications of the enormous addition which has been made during the last fifteen years to the extent and depth of the channels of circulation required to be filled with metallic money in some form or other. The truth is that with the present and extended commerce of the world far more mischief and inconvenience will arise from the effect of what seems to be a continuous gradual decline in the new supplies of gold than from any effects which have flowed or may flow from the California and Australian discoveries.

Of railroads, which are at once a proof and an instrumentality of commerce, about seven-eighths of all existing lines have been constructed since the discovery of gold in California.

According to Poor's Railroad Manual for 1876–'77, there have been completed in the world to the present time 182,690 miles of railroad. Of this vast mileage, only 24,102 miles were completed in 1850.

The increase of the world's wealth since 1849 admits of no accurate computation. In this country, according to the following estimates from the census-reports, it more than quadrupled in twenty years.

	True value of property in United States.
1850	$7,135,000,000
1860	16,159,000,000
1870	30,068,000,000

In the British Australian colonies, the rate of increase was greater. In Europe it was less, although still great. In the world as a whole, it must certainly have kept pace with the increase of the stocks of the precious metals.

In Great Britain and Ireland the value of property assessed to income-tax, was:

1872	£435,000,000
1845	256,000,000
Increase	179,000,000

It is a striking feature of modern, and especially of recent times, that the area of civilization, with all its attendant conditions, has been immensely extended over substantially unoccupied portions of the earth. The foremost European races have spread rapidly and resistlessly in every direction. Wherever they have planted their feet they have established order, encouraged industry, built up commerce, created wealth, and infused with the commercial idea the sluggish populations by which they were surrounded. It is thus that Europe grows quite as much abroad as at home, and it will be its glory in coming times to be overshadowed by its colonies, which are diffusing its blood, genius, arts, and languages over every continent and over the isles of all the seas. While the former seats of civilization expand in population and power, new and great civilized nations appear upon the scene. The figures which mark the extent of these new creations enlarge so rapidly and so soon become obsolete and useless that it seems a waste of time to charge the memory with them. The annual imports of Australia are now stated at $250,000,000, implying an aggregate foreign commerce of twice that amount, which surpasses that of Great Britain forty years ago, that of France twenty-five years ago, and that of the United States twenty years ago. Canada, the Cape of Good Hope, and other British dependencies attest also the colonizing energy of Great Britain, and, if less strikingly, it is only because of the contrast with the prodigious advancement of Australia. In South America the colonization of other European races, not accompanied as in the British case by extensions of European sovereignty, but equally involving the extension of European civilization, is proceeding upon a great scale. During the year 1875 the European emigration to Buenos Ayres actually exceeded that to New York.

If the business of the world is to be based on metallic money the production of either of the metals would be entirely insufficient. Both gold and silver must still be used as money, and the production of both must continually increase if the advance of the world in wealth, commerce, and population is to continue in an equal ratio as in the recent past. If metallic money becomes insufficient, by reason of the demonetization of either of the precious metals, or from any cause, one of two things must happen—

The commercial, industrial, and numerical progress of mankind must be arrested, and if the decrease of money shall be a continuing one and cover a long period of time it must end in an absolute check to progress and possibly in the destruction of existing social and political institutions.

Or, what is most probable, relief would be sought in an extension and perpetuation of existing systems of inconvertible money, which owe their origin to the pressure of expanding population and commerce against the restrictive bounds of a stationary and perhaps declining aggregate supply of the two metals.

During certain periods in the past, when prices have been falling by reason of a shrinkage in the volume of money, a slow and toilsome advance has been made in the accumulation of wealth. Under such conditions its just distribution is impossible. A shrinking volume of money and falling prices always have had and always must have a tendency to concentrate wealth, to enrich the few, and to impoverish and degrade the many. This tendency is subtle, active, and portentous throughout the world to-day.

FLUCTUATIONS IN THE RELATIVE PRODUCTION OF THE METALS DO NOT AFFECT THEIR RELATIVE VALUE UNDER THE PRESENT CONDITIONS OF THE WORLD'S BUSINESS, SO LONG AS THE LAW OF ONE OR MORE IMPORTANT COUNTRIES PERMITS THE UNRESTRICTED COINAGE OF BOTH METALS, AND INVESTS BOTH EQUALLY WITH THE MONEY FUNCTION.

It is said that changes in the relative value of the two metals are caused by changes in the cost and amount of their relative current production, and that from the very chance nature of mining changes in the cost and amount of production must constantly occur, and that, consequently, such frequent changes must be made in the legal relation of gold and silver as to render the maintenance of the double standard extremely inconvenient.

It has always been a theoretical objection to the double or optional standard that the market-relation of value of gold and silver might so diverge from the legal relation as to render a re-adjustment of the latter occasionally necessary. We have had but one re-adjustment since 1792 in our own coinage, namely, in 1834. The change of 1837 in the legal relation was too minute and trifling to be called a re-adjustment. The re-adjustment of 1834 was not made necessary by any change which had taken place in the market-relation of gold and silver, but because the legal relation originally established in 1792 did not accord with the market-relation at that time. If the proper relation had been established in 1792, it is doubtful if a re-adjustment would have been required down to the present time. In the debates in the French Chambers upon the law of 1803, fixing 15½ to 1 as the legal relation between gold and silver, it was conceded that changes in that relation might be required at probable intervals of half a century; but none has, in fact, been made in France since then, nor until recently have any even seemed to be necessary.

The relative value of the two metals, which had fluctuated considerably during the Middle Ages, settled and became steady about the middle of the seventeenth century. Whether because the great opposing forces of the American supply of, and the Asiatic demand for, silver had then reached the final adjustment of their effects, or whatever may have been the cause, the fact is certain that from that time on, and for more than two centuries, and down to 1874–'75, when the German demonetization of silver began to come into practical operation, the fluctuations were slight and unimportant, except during a short period, when England disturbed the markets by adopting a gold standard.

In the appendix to this report will be found *Minute on the Market Ratio Between Gold and Silver in London, England, from* 1760 *to the Present Time.* The ratios between gold and silver between 1833 and 1875 are taken from the tables furnished by Pixley & Abell, bullion-brokers, of

London, to the British Silver Commission of 1876. The ratio each year from 1833 to 1875 is based on the average price in gold in each month of the year of one ounce of standard silver. When the London quotation is fifty-nine pence per standard ounce, the relative value of silver and gold in that market is 15.98 to 1. This is the legal relation that was established in this country in 1834–'37, and which remained unchanged until it was abrogated by the demonetization of silver in 1874. When the London quotation is 60.87 pence per ounce, the relative value of silver and gold in that market is 15½ to 1, which exactly corresponds with the legal relation between the metals in the Latin Union.

A comparison of the fluctuations in the relative value of the two metals with the fluctuations during the same periods in their relative production, will show how small an influence the latter have had upon the former.

The period from 1833 to 1875 covers twenty-seven years after the California discoveries and twenty-four years after the Australian discoveries. There was an enormous increase after 1848 in the relative annual production of gold, and this increase had in 1873 continued long enough to affect very greatly the relative magnitude of the stocks of the two metals.

From the date of the discovery of America until 1848, Chevalier estimates the production of gold and silver respectively as follows:

	Silver.	Gold.
From America	$5,261,000,000	$1,998,000,000
From elsewhere	444,000,000	628,000,000
Total	5,705,000,000	2,626,000,000

The gold supply was 31 per cent. of the whole.

Also see appendix, *Minute on the Production of Gold and Silver in the Western World from the Discovery of America to the Present Time.*

The annual production at the beginning of this century was, according to Humboldt—

	Silver.	Gold.
From America	£7,071,831	£2,382,315
From elsewhere	661,145	251,822
Total	7,732,976	2,634,137

The gold supply was then 25 per cent. of the whole.

During the twenty years from 1809 to 1829, when the American supply was seriously reduced by revolutionary troubles in the Spanish colonies, the annual average production of the world was, according to Jacob, in gold, £1,598,000, and in silver, £3,639,000. This made the annual gold supply during that period 30 per cent. of the whole.

In 1846, in consequence of a heavy yield from the Russian gold-fields, the supply of gold was from 50 to 52 per cent. of the whole, but so large a proportion of gold had been produced only for a short period prior to 1848. According to all estimates the supply of gold for three centuries and a half prior to 1848 was only some proportion between 25 and 31 per cent. of the total supply of the two metals.

According to the figures of Sir Hector Hay, heretofore given, and which do not materially differ from those of Tooke and Newmarch, and other accepted authorities, the proportion of gold production to the combined production of gold and silver was—

In five years ending with and including—	Proportion of gold to supply of both metals.
1856	79 per cent.
1861	75 per cent.
1866	71 per cent.
1871	71 per cent.

And even during the four years ending with and including 1875, the Comstock lode had only carried up the relative production of silver to a proportion of about 40 per cent. of the supply of both metals.

During the entire twenty years ending with and including 1871, the proportion of silver was only about 27 per cent. of the whole production, whereas for three and a half centuries prior to 1848 it was from 69 to 75 per cent. of the whole production. Even in 1876, the yield of silver was only 43 per cent. of the whole production.

These facts show how great a change the gold discoveries of the middle of this century made in the relative out-turn of the two metals.

How trifling were the changes in the relative value of the two metals during this enormous change in their relative production will appear from the minute on the market ratio of gold and silver.

The London quotation of the price of silver in 1871 was $60\frac{1}{2}d.$ per standard oz. During none of the five years ending with and including 1871 did it exceed $60\frac{9}{16}d.$, and the average during the whole five years was $60\frac{41}{80}d.$ During the five years preceding 1848 it averaged $59\frac{31}{80}d.$ The utmost that can be set down to the score of the California and Australian gold yield as a disturbing cause is this difference between $60\frac{41}{80}d.$ and $59\frac{31}{80}d.$ There were intermediate differences somewhat larger, but the greatest, that of $62\frac{1}{16}d.$ for the year 1859, was clearly due to the sudden and largely increased demand for, and purchase of, silver in England to remit to India to construct railroads and other public works, the necessity for which had been made apparent in the great Sepoy rebellion. It is, at any rate, a pregnant coincidence that the greatest aberration in the London market in the relation between gold and silver, prior to the German demonetization, was contemporaneous with an extraordinary demand for silver for India, for uses till then unknown in that country. It is doubtful whether any of these changes in the relative value of the metals should be ascribed to changes in their relative production. They were practically confined to the London market and measured the varying premiums which England was obliged to pay for the luxury of a gold standard. The silver needed for its great dependency could have been obtained without premium or inconvenience if the metals had been legally interchangeable, as in France. It has never been shown that the maximum change in the relation which occurred in 1859 was a source of loss, or even inconvenience, to double-standard countries. On the contrary, the French Baron Rothschild says that France has profited largely from the premiums which England has been compelled to pay for silver from time to time.

Ernest Seyd (Bullion, page 631) ascribes the occasional higher prices of silver in London to the demands for the eastern trade, and adds that "on the continent silver has varied but little in price." Sir Isaac Newton, in 1717, treated much larger fluctuations in London, arising from the same cause, as of no importance. In his report, then made as master of the mint, he determined the average price of silver in London to be $64\frac{1}{2}$ pence, and adds:

When ships are lading for the East Indies, the demand of silver for exportation raises the price to 66 or 68 pence, or above, but I consider not those extraordinary cases.

The sudden increase of the demand for silver in England in 1859, is shown by the fact that British silver exports to the East rose from £4,753,933 in 1858 to more than three times that amount in 1859.

The steadiness in the relative market-value of the two metals under a sudden and great increase of the supply and stock of gold having been thus demonstrated by experience, it is incredible that it can have been at all affected by the smaller and slower increase of the last few years in the supply and stock of silver. For a long period of time prior to 1848, silver had been produced greatly in excess of gold, and is not now produced equally with it, and is not likely to be so produced for many years. The most that can be said is, that the yield of silver has recently recovered from a temporary relative deficiency. Its present increased yield, as has been shown, is principally from the Comstock lode. Even if an excessive relative production of either metal would tend to disturb the relative value of the metals, the production of the Comstock lode, which yields almost as much gold as silver, could not occasion such a disturbance.

The results following the extraordinary supply of gold from California and Australia, as well as those which followed the extraordinary supply of silver after the discovery of America, show that the steadiness of the relative value of the metals, under great vicissitudes of production, is sufficiently great to justify their concurrent use as money, and is very much greater than the steadiness in the value of either or both of them, as compared with all other things.

One cause for the steadiness in the relative value of gold and silver is perhaps to be found in the hypothesis that during the past three centuries, when the variations in their relative market value have oscillated between 14 and 16 of silver to 1 of gold, the variations in the relative cost of producing them have also been between 14 and 16 to 1, taking into account all the varying conditions of production. But while there seems to be a not very unsteady relation of value between the metals, independent of legislation, whether based upon cost of production over long terms of time, as assumed in the foregoing hypothesis, or upon the relative magnitude of the accumulated stocks of gold and silver, or uponsome other foundation, it also appears to be established by experience that law can make the relation exact and permanent, within the range of fluctuations determined by other causes. A law undervaluing any particular commodity, whose current production rarely exceeds its current consumption, would be speedily defeated by a stoppage of its production and the disappearance of the article undervalued. The enormous stocks of the precious metals, the accumulations of centuries, and imperishable, so greatly exceed in amount either the production or consumption of any one year, or of scores of years, that the law can control their relative value in the performance of the money function which it confers on them. It is the enormous surplus of the precious metals over and above the demand for them as commodities which places it within the power of the law to control their relative values, and the larger this surplus is the more exactly and permanently can the law control them. The view seems extreme and untenable that this power of the law is without limit, as, for instance, that it could permanently make silver and gold equal in value pound for pound. At that rating, gold would be produced only under exceptional circumstances, and the gold in existence would rapidly leave the coinages for the other uses, to which it is essential, or pre-eminently adapted.

Whenever the surplus stock of the under-valued metal should disappear, the power of the law to control its value relative to the other metal would cease. The demand for it in the arts would be superior to the demand for it as money, and would absorb the current production at higher than mint rates. But whatever doubt may exist as to the possibility of establishing an equivalency between the metals of one for one, or any other extraordinary equivalency, there can be no doubt that the United States alone could by law establish exactly and permanently an equivalency between them, which has practically withstood the mutations and frictions of three centuries of time.

The use of the precious metals as money is as old as tradition, and there can be no doubt that this use originated in the universal estimation in which these beautiful metals had always been held and in the qualities of durability, divisibility, and portability which fit them for the monetary function. Nor can there be any doubt that originally the value of gold and silver followed closely the cost of their production, and that the demand for them as commodities was the controlling, but variable, force in regulating their values. But when in the progress of society large stocks of the metals had been accumulated and their use as money had become established, that use and the demand which resulted from it became the controlling force in regulating their values. Demand and supply are the sole factors out of which exchangeable value arises. The demand for gold and silver as commodities is limited and fluctuating, but when the law invests them with the higher function of money and makes them the common denominator of all values, that limited and fluctuating demand is changed to an unlimited and constant one, which fixes their value for other and inferior purposes.

The demand for the precious metals as commodities is believed by many to be still essential to their general and ready acceptance as money. If this is true, it is a misfortune. The happiness and prosperity of the world, if not wholly dependent upon, are largely influenced by, the steadiness of the value of money, which cannot exist without steadiness in its volume. The demand for the precious metals as commodities is fitful and irregular, and always affects the volume of money in the most injurious direction, that of decreasing it. History shows that a deficiency of money is more probable and more to be feared than an excess, and this deficiency is caused in a great measure by the insidious and constant encroachment upon the precious metals of other demands for them than as money. When the magnitude of the world's interests and equities, which rest on steadiness in the value of money, is contrasted with the comparative unimportance of the uses of the metals as commodities, it becomes apparent that the subjection of the value of money to disturbance from the demands for gilded signs and looking-glasses, for bangles and breast-pins, is an evil which the benefits derived from such uses but poorly compensate.

The power of law in steadying the relative value of the metals has been signally illustrated during the extraordinary variations of the last thirty years in their relative supply. To whatever extent gold depreciated in relation to commodities from 1848 to 1865, after the California discoveries, silver depreciated to the same extent, notwithstanding the enormous decrease in its relative production during that period. The two metals fell together because the ligature of law was strong enough to hold them together. The French law of 1803 held their relations steady in Europe until it was practically abrogated by the limitation of silver coinage in 1874, and its total suspension in 1876. Jevons likens the stocks of the two metals to two reservoirs, supplied from

independent sources, and, therefore, tending to differences of level, but actually kept at the same level by a connecting-pipe. The connecting-pipe between the metals is the law, which establishes a legal relation of value between them, and which, by authorizing their interchangeable use as money, maintains their market and legal relation of value at the same level.

It is not claimed that law can directly control the relative values of the metals, or of anything else. But it is claimed that upon the slightest divergence between the two metals, the law of the double standard creates a new and constant demand for the cheaper metal, while at the same time it suspends all demand for the dearer one, and, until the equivalency is restored, furnishes a supply of the dearer metal to the markets of the world. It thus operates on demand and supply, which, it is not denied, are the sole factors of value.

The power of a country whose laws establish the double standard to steady the relative value of the metals in the markets of the world depends, first, upon the aggregate amount of its metallic circulation, and, second, upon the proportions of each metal in that supply. A country with a metallic circulation of, say, $150,000,000 in gold and $250,000,000 in silver, has the power to furnish to the world's markets those amounts respectively of both gold and silver, and to take in corresponding amounts of the other metals. Under these conditions it could to that extent check fluctuations in either direction and from whatever cause arising in the relative value of the metals. But if the metallic money of a country were $400,000,000, wholly in silver or gold, it could only prevent a rise in the relative value of the particular metal which it possessed, which it could do by yielding up to the markets the whole of that metal and absorbing in its place an equal amount of the other. Thus France, during the period of the greatest gold yield, absorbed under the free operation of the double standard not less than $500,000,000 and probably $700,000,000 in gold in eight years and yielded up a sufficient amount of silver to maintain the equivalency between the metals.

The metallic circulation of Great Britain is generally estimated at $600,000,000, and of France at $1,000,000,000. On a comparison with any country on a metallic basis, $500,000,000 is the least amount of metallic money that can be assumed to be sufficient for this country in the event of resumption. With that amount divided between gold and silver in any proportion which can be conceived to be probable, the power of the United States would be sufficient to maintain the equivalency of the metals against greater fluctuations in the supply and demand than have ever occurred in the direction of depreciating silver, or are ever likely to occur in either direction.

It has not been deemed necessary, in view of the patent and accumulated facts of experience, to present all the technical and theoretical arguments and subtle considerations which sustain the theory that supply and demand, as commonly understood, have only a minor influence upon the value of a vast surplus of any commodity which the law invests with the functions of money, and that law is the major and paramount influence, not in controlling the value of money in relation to other things, but in creating an automatically-shifting demand and regulating through it the relation of value between the surplus stocks of two commodities invested with the functions of money.

The first treaty concerning a relation of value between the two metals was made between France, Italy, Switzerland, and Belgium, in 1865, and known as the Latin Union. This treaty made permanent in those countries, until 1880, the relation which had previously existed

in each of them of 15½ of silver to 1 of gold. The advantages of an agreement between double-standard countries, upon the relation of value between gold and silver, seem obvious at the present day. In all times past, the relation has been established not by concerted action, but by each nation acting for itself, with the apparent design of securing some supposed advantage in matters of commerce and money. It was long supposed that there was something to be gained by retaining the one metal rather than the other, and that the threatened exportation of the favored metal ought to be prevented by its legal overvaluation in relation to the other metal. Even the great mind of Sir Isaac Newton did not wholly escape the influence of the prevailing delusions of his time, and his report of 1717 upon the relation of the metals is mainly directed to a demonstration of the relation most likely to prevent the exportation of silver. Our own legislation on this subject has not been faultless. The legal relation of gold to silver of 1 to 15, originally established in 1792, was an undervaluation of gold and an overvaluation of silver. The change made in 1834, establishing a relation of 1 to 16, was as great an error in the opposite direction, but was acceptable to Georgia and the Carolinas, then in the flush of great hopes from recently-discovered gold-mines, and satisfactory to the whole country on the theory that bank-notes could be expelled more certainly and readily from the smaller channels of circulation by gold than by silver coin.

With the more enlarged ideas now prevailing in respect to international interests and obligations, it may be reasonably hoped that the nations which agree upon the wisdom and policy of a double standard of money will guarantee to that policy its best development, by a uniform relation of value between the metals.

The closure of the mints of Europe and the United States against the unrestricted coinage of silver reduces the current supply and uncoined stock of that metal to the level of a commodity in those countries, deprives it of the steadying influence of a connection with the vast accumulations of coined silver, and dams it from the channels of circulation, to take its chances of finding purchasers in the markets. A surplus of silver in the London market of even so small an amount as $10,000,000 might cause a serious depreciation in its value. The extent to which any commodity not in present demand can be held speculatively in the market, depends upon the number of persons who possess the capital to hold it, and at the same time the confidence and temper to induce them to do so. Ten million dollars in silver is a large and onerous amount to be carried speculatively, with the loss of interest and other charges, even in the London market, but it is a wholly insignificant sum in the circulation of even one considerable country. The much larger sum placed on the markets by the German demonetization of silver, would not have been felt if France had not adopted the policy, without precedent in history, of closing its mints to a metal which it still retained as money in the coins already struck from it.

The present fluctuations in the relative value of the precious metal could not have occurred with open mints for both metals, and instead of being arguments against the double standard, most strikingly illustrate the folly of abandoning it and of closing mints against silver. How much suffering and loss must yet be endured, before the commercial world returns to the old and safe ways, remains to be seen.

The policy of France in closing its mints to silver can hardly be explained as the result of panic. It was probably brought about by the activity and influence of the partisans of a gold standard. A vastly

greater excess of gold had been brought to the French mint after the California and Australian discoveries, than could have been brought to it in silver in consequence of the German movement. There is not, and has not been since 1873, any question of the power of France, and its monetary allies in Europe, to sustain silver and the double standard. England and Germany are important countries, but they are not important enough, with a current annual production of $101,000,000 in gold, and only $74,000,000 in silver, to raise gold and depress silver, if France again resumes silver coinage. Either France or the United States could resume the coinage of silver without suffering anything more or worse than the exchange of their commodities or possibly some small amount of gold for silver. If they or either of them refuse to do so, it will not be from expediency or necessity, but because their ancient opinions have been changed for the new dogmas which originated in the ncrease of metallic supplies after 1848.

WEIGHT AND BULKINESS OF SILVER.

The inconvenience and expense of transporting and handling sums in silver sufficiently large to meet the requirements of the increased exchanges of modern commerce, is sometimes urged as a reason for the abandonment of the heavier and bulkier metal. To this it is a sufficient answer that the facilities for transportation have increased as rapidly and as greatly as the volume of commercial exchanges, and even more. In the transportation of the precious metals, the chief cost is the risk, and is therefore proportioned to the value, and not to the bulk and weight, which have become comparatively unimportant considerations. If the weight of a given value in silver is greater than the same value in gold, the risk in its carriage is less, because it is less liable to furtive seizure and concealment. As a matter of fact, the charges for transportation are about as low for one metal as for the other. So far as convenience of handling is concerned, it is enough to say that both gold and silver are too bulky and heavy for the ordinary transactions of business. Only a minute percentage of large payments is made in either metal, nearly all of them being made with paper, or by transfers of credits. What is called gold in the markets and in the bank reserves in this country, is to a considerable extent not really that metal, but certificates of the deposits of it issued in money-note form by the Secretary of the Treasury of the United States. Such certificates may and ought to be issued upon the deposit of silver, which can be held at less risk than gold. They should be issued for bars of both metals, stamped at the Government assay-offices, as well as for coins. They would be much more convenient for money use than coin of either metal. The habits and prejudices of the people of the United States are confirmed in favor of a safe paper money. If by safety is meant constant convertibility at will into coin, no paper money could be safer than that based dollar for dollar on coin or bullion in the government vaults. Such paper would be universally used in transacting the business of the country. A certificate in money-note form issued by the United States Treasury for a deposit of silver in its vaults, would be neither heavier, bulkier, nor less convenient than a like certificate issued for a deposit of gold.

Jevons (Mechanism of Money, page 203) says:

> The use of representative money is becoming so general in the most advanced commercial countries, that the portability of metallic money is a question of very minor importance.

The Journal of the London Statistical Society (March, 1875) says:

Such is the development of credit in this country, that it has been roughly calculated that 97 per cent. of payments are ordinarily effected by checks, bills, and other expedients of credit; about 2½ per cent. by bank-notes; and about ½ per cent. by coin.

In this country the proportion of money used in settling balances, reckoning both bank-notes and coin as money, is somewhat larger than in England, but is still small.

III.

THE COMBINED MASS OF GOLD AND SILVER HAVING BEEN THE MONETARY MEASURE OF VALUES, IS IT JUST TO REDUCE THE MEASURE BY DISCARDING EITHER METAL?

The facts that both gold and silver have heretofore been used as money, that prices have been controlled by their combined volume, and that existing contracts on an enormous scale have been entered into on that basis by states, municipalities, corporations, and individuals, are the most important of all the facts to be considered in respect of propositions to demonetize either metal. If gold alone had always been used as money, although less steady as a measure of value than gold and silver together, and in other respects less desirable, the objection would be well taken, that the addition of silver would double the existing volume of money and thereby depreciate it, and thus injure the creditor. The arguments of justice and expediency are more cogent against diminishing the mass of money by discarding silver, when both gold and silver have been always and almost universally used as money. The great majority of creditors have other connections with the business operations of the communities in which they live, and other forms of investment than those which constitute them creditors. What they would gain as creditors by a contraction in the volume of money, would be partially, if not entirely, lost by their unavoidable participation in the general depression resulting from the fall in prices which such contraction would occasion. Alison (England in 1815 and 1845) says of the currency contraction brought on by the British gold-resumption policy of 1819–'21:

There can be no doubt that the reduction of interest has injured the holders of the available capital of the country nearly as much, in many cases, as the producing classes have been injured by the fall in the money-prices of their commodities. * * * Probably it has reduced the incomes of creditors forty per cent.

And so, on the other hand, what they might lose as creditors through an abundance of money and a general rise of prices would be more or less compensated by the buoyancy and activity of business, and by the enlarged revenues from real estate and fixed capital, which follow an increase in the volume of money. To the debtor classes there is no compensation for the appreciation of money, and they are less able to bear losses. This difference in the respective conditions of debtor and creditor was well summed up in the following language in a report made to the United States Senate, June 9, 1868, by Mr. Sherman, chairman of the Committee on Finance:

The depreciation of the burden of debt is a loss to a class generally benefited by the increased values of fixed property, and better able to bear the diminution of their capital; but an increase of the burden of the debt to the debtor class often produces absolute ruin.

Price, the expression of a relation between money and other things.

Price is the expression in money terms of the relation which the unit of money bears to a specified quantity, or the unit of each and every

other thing in exchange. It is also the expression in units of property and services of the value of the unit of money, and without having any influence on the relations is the sure indicator of the exchange relations which the units of all other things bear to each other. Market-price is the expression in the units of money of an equilibrium between the correlative demands of buyer and seller. It is, in fact, generally established through a competition between sellers, rather than buyers; the market-price of any article being the smallest quantity of money for which the unit of such article is offered for sale in open market. By the word unit, when applied to money, is intended that denomination in which accounts are kept, and in which judgments are rendered for money, as the dollar in this country and the pound sterling in England. By the same word, as applied to commodities, is intended that specific portion or quantity by multiples or fractions of which all quantities are accustomed to be described, as a ton for coal, or a yard for cloth. The relations in exchange of all other things than money are not at all affected by the volume of money, or by its increase or decrease. Nor do changes in the volume of money practically affect a transaction wherein a seller of property makes immediate purchase of other property with the proceeds of such sale. Exchange by barter can be as equitably effected under one volume of money, and under one range of prices, as another. But under a credit system, where contracts aggregating a vast amount, to pay money at future periods, have been made, steadiness in prices becomes the all-important consideration, and that steadiness depends on the steadiness in the quantitative relation between money and all other things. The performance of contracts to deliver commodities or render services is not made either less or more difficult by an increase or decrease in the volume of money. But nearly all contracts in the commercial world are for the future delivery of money, and the consideration received and the promise made in such contracts are based on existing prices. The command, therefore, which commodities and services may have over money in the future, and which will find its expression in price, becomes a matter of vital importance.

Whenever under any firmly-established government a system of money has been generally accepted, the value of each unit of such money becomes a general mental conception, which, if it be what is called a value, or metallic money, is not based on the past or probable future cost of producing the material of which it is composed, nor on the average cost of its production, nor on the cost of its production in either the most or least prolific mine. Nor, if it be what is called credit-money, having full legal-tender functions, is that portion of it which is unhoarded and in circulation and performing the functions of money, based upon the present value of the promise of the issuer to redeem it, nor upon the proximity or remoteness of such redemption.

Under firmly-established systems the value of each unit of either metallic or fiat money depends absolutely upon the number of such units and the relation they bear to the services they are required to perform. The purchasing-power of the world's entire stock of metallic money would neither be increased nor diminished by an increase or diminution of its magnitude, if other things should at the same time remain unchanged. The value of that stock can only be changed by an increase or diminution of the things which it is the function of money to measure. If the volume of either metallic money or accepted fiat money should be doubled at however great or little cost, other things remaining the same, the aggregate value of neither would be changed, but the value of each unit would be diminished one-half.

The cost of producing the precious metals has no direct influence upon the value of metallic money, but might tend, although the history of mining does not show this to be the case, to stimulate or discourage production, and, consequently, in long periods of time, to affect the magnitude of the metallic money stock, and it is the magnitude of that stock relative to the amount of services it is required to perform that controls the value of each unit of either metallic or fiat money.

But even if it were true that an increasing value of money stimulated mining, the nature of the occupation is such that the increase of the yield would be slow and doubtful, and unless there should occur such improbable if not impossible discoveries as those of California and Australia, whose recurrence has been marked by the lapse of centuries, generations of falling prices and ruin might come and go before relief could be had.

In a great majority of the instances, in which the current metallic supply has been largely increased, it has not been due to any stimulus given to mining by the increased value of money, but to the purely chance discoveries of new mining-fields. As often as otherwise, these discoveries have been made accidentally by persons while engaged in other pursuits than mining. And whenever they have been made by those engaged in mining, the surrounding circumstances show that they were as likely to have been made at one time as at another, and without reference, except in a remote degree, to the increasing or decreasing value of money. Indeed, it is to be doubted whether the cost to the miner of producing the precious metals differs at different times, and whether the amount produced does not depend entirely upon accidental discoveries. However this may be, nothing can be more certain than that the production of the precious metals bears no scientific relation to the increase or decrease of population and commerce, which alone should govern the increase or decrease of the stock of money.

In respect to almost all other commodities, an advancing price causes an immediate increase in production. In agricultural products a single year suffices, and in manufactured articles periods far short of a year, and the increased production requires no movement of populations, but only a different direction of their industries. Gold and silver mines are generally found in sterile regions, remote from populations, and destitute of the supplies and materials needed in mining. It is only a small portion of the human race that are both able and willing to leave the comforts and conveniences of home to engage in such a hazardous business as mining even in fields already discovered, and the number is still less, whatever might be the exchangeable value of money, that would be ready to embark in a new Argos in a new search for the Golden Fleece.

If the present current out-turn of the precious metals were produced without any cost whatever, and if, at the same time, the sources of production were so controlled as to prevent any increase thereof, the value of the product would be precisely the same as it is under existing circumstances. If, for the purpose of maintaining intact the world's metallic money stock, and of furnishing the additional quantity required by increasing population and commerce, the various governments should raise a fund for the mining of the metals, and if each grain were produced at a cost equal to the value of three grains, the value of the product would not and could not be at all enhanced by that consideration. This process might be continued indefinitely and forever without increasing the value of the metal so produced over its previously-existing value. If, through this governmental production, the stock were increased beyond current requirements, the value of each grain produced,

notwithstanding the high cost of its production, would be decreased in inverse ratio. It is the limitation of the quantity of money, without any reference to the cost of its production, that regulates the value of each unit of money, whether fiat or metallic. In the case of fiat money, the limitation is imposed by law. In the case of metallic money, it is imposed by nature. The effect of limitation upon the value of money is precisely the same in both instances. In the one case the limitation is regulated by the wisdom and justice of man; in the other, it is regulated by the variable and uncertain obstacles which nature opposes to the production of the metals. *The value of money, of whatever kind, is measured by the cost of obtaining it after it has been produced, and not by the cost of its production, and this value is indicated by the general range of prices.*

The calculations of those who contract to pay money are always based upon the general command which units of property and services have over units of money, and their expectations of meeting their contracts when they mature rest upon their confidence in a steady continuance of that command and upon their knowledge that the services or property which they control will, at that rating, be sufficient. But such contracts can only be satisfied legally by the delivery of the specified number of the units of money.

If, in the mean time, population, commodities, and commerce should increase, and the stock of money should not increase in corresponding ratio, or if commerce and population should remain stationary, and a large portion of the money in existence when the contract was made were struck down by legislation, the equilibrium between money and other things would be disturbed. The money unit would rise in value and prices would fall. The debtor would find that it required more labor and more property to meet the terms than it would to meet the equity of his contract. But the terms, not the equity, must be met, and the debtor must submit to the partial or entire confiscation of his property.

Prices, notwithstanding the use of banking expedients and credits, governed by the volume of money.

It is sometimes maintained that a compensation can be made for a shrinkage in the volume of money by an increase of such banking expedients as checks, bills of exchange, and clearing-houses. These expedients are now resorted to, and, because profit is found in their use, always will be availed of to the utmost possible extent. It is manifest, therefore, that, whatever the proportion or percentage they bear to the volume of money, it cannot be increased except through an increase in that volume. And it is as manifest that, when the volume of money is diminished, these expedients must diminish, and prices must fall in a corresponding ratio. Money is the primary and governing force whose functions cannot be superseded by any device whatever, and whose volume or existence does not depend on banking expedients, while these expedients grow out of money and could not exist without it. The farthest extent to which they can be used is already practically reached, and they can only increase, and must decrease, as the volume of money increases or diminishes.

This reasoning partially applies as to the effect of credit on prices. It would seem to be reversing the natural order of things to maintain that prices are controlled by the volume of credit instead of by the volume of money. Without entering into an elaborate discussion of this intricate question, it may be said that prices were affixed to property at the time when the invention of money superseded barter. Credit, as it is

now understood, was impossible under the barter system, and must have come into existence at some period after values were measured through the medium of price. Primarily, then, prices must have been entirely controlled by the volume of money, unaffected by credit.

Credit is the explosive element in the business of modern times. If it were extended upon property at such a rating of prices as would be established through money alone, and if the relation between the volume of money and population and commerce remained steady, prices would remain steady, and the great mass of credits would rest upon a sound basis. Even under such conditions there would be speculative and unsound credits, but these would be exceptional, and the injury caused by their collapse would be local, individual, and temporary. There never can occur a universal fall of prices and a general withdrawal of credits without a preceding decrease in the volume of money.

It is contended by many that credit is based on the combined volume of property and money, and that a diminution of the volume of money need not occasion any greater withdrawal of credit than such proportion as the diminution would bear to the aggregate amount of property and money. But the amount of credit which can, or will be, extended upon property, depends upon its price, which is supposed to represent the cash it can be sold for, and price depends upon the relation between the volume of money and other things. Property which might be ample security for a given quantity of money at one range of prices would be an inadequate security at a lower range. If all the money of the world were diminished by one-half, the amount of credits that could be safely extended upon property would be diminished in at least as great a proportion. It is money, and not property, unless the creditor shall choose to accept it, that is required for the payment of debts, and the power of property over credit is limited to its command in open market over money, which command must be greater or less as the volume of money is larger or smaller. If the amount of credit which can be safely extended upon property be not governed by the price it can be sold for, then credit must be an institution based upon the whims and caprices of those who extend it. If credit is either increased or diminished upon property which has undergone no physical change, and without reference to its price, such increase or diminution must be ascribed to the abnormal mental condition of the money-lender; this is a disease which, as it is not caused by a change in material conditions, is beyond the reach of the remedies of the political economist, and must be treated psychologically.

The mistake is often made, that prices are not controlled by the volume of money, because they have neither risen nor fallen concurrently with, nor in exact proportion to, the increase or decrease of such volume. The precious metals are diffused over so vast a surface and their current production is so small in comparison with accumulated stocks that it takes considerable time for changes in their yield to so affect their volume relatively to population and business as to produce any sensible effect upon prices. The entire property-interests of a country are united in maintaining, and if possible in advancing, the price of property, and in resisting to the uttermost any decline. A temporary maintenance of nominal prices, even in the presence of a shrinking volume of money, is especially practicable with imperishable property, such as real estate. When money begins to become scarce, by reason of a shrinkage in its volume, the first effect upon real estate is found to be, not a decline of its nominal price, but a diminution in the number of transactions. Market-reports quote real estate "*dull;*

few sales, but prices firm." This stagnation is ascribed to temporary causes, and a speedy recovery predicted. In order to maintain prices the terms of purchase are made easier. The amount of cash payments is reduced, and the deferred payments, secured by mortgage on the property, extended over longer periods. After a time this expedient fails, and, even then, nominal prices are unnaturally held up for a short period by the struggles of those who have purchased upon these extended credits, and by the tenacity of owners who refuse to sell at lower figures, and mortgage their own property to protract their power to hold. The stagnation of voluntary transactions is finally followed by the activity of involuntary ones under the direction of sheriffs and by the foreclosure of mortgages.

Upon any material decline in the price of real estate, a large class of investors, believing that the bottom has been reached, and desiring to profit by the reaction which they think is sure to come speedily, enter the market and temporarily check the decline. Another fall in prices sweeps them and their margins away, and a third class of dealers, now absolutely certain that bottom prices have been reached, and sure that a further decline is impossible, come in as purchasers. Each succeeding purchaser fortifies his conclusion that present prices are bottom prices by comparing them with and finding that they are no higher than the prices of some period in the past which is arbitrarily assumed to be a standard level, below which subsequent prices could never permanently go. It is overlooked that price is only the expression of a relation, and that no correct conclusions can be drawn from a comparison of the prices of two periods unless comparisons be also made of the money stock, population, and exchanges of both periods. Contrary to all calculations as the volume of money shrinks prices continue to fall, and these dealers encounter the fate of their predecessors. These operations repeat themselves until universal distrust prevails, and until it is found that, when money is decreasing in volume, prices have no bottom except a receding one, and that they are inexorably ruled by the volume of money. The effects of a decrease of the volume of money in a particular country arising from its abnormal outflow or from its withdrawal from the channels of circulation through the distrust which prevails when unsound and speculative undertakings are breaking down, or when the country is convulsed by political disturbances, are the same as the effects of a general decrease in the volume of money. The result in both cases is a fall in prices. But in the first case the equilibrium is restored by a quickly-returning wave of prosperity, and the evils resulting are confined to individuals and to special localities; and those dealers are fortunate who purchase in the first stages of the decline. But in the second case the cause of the fall in prices is radical, and must continue until prices go out of existence, unless the decrease in the volume of money is arrested. In the whole history of the world every great and general fall of prices has been preceded by a decrease in the volume of money. There has never been a decrease in the volume of money, nor has there ever been a stationary volume of money, unless accompanied by a stationary population and commerce, which has not sooner or later resulted in a general fall of prices, and there has never been a recovery therefrom except through a preceding increase in the volume of money. After the volume of money has begun to decrease every dollar of credit extended at the old range of prices aggravates the disaster which must come sooner or later. Stagnation and panic are nothing more nor less than the results of a struggle to make prices express truly the relation between

money and all other things. Fluctuations of prices frequently arise from special causes, but they are local and temporary in their character.

Even were it possible to devise a money system so perfect that steadiness in the general level of prices would be absolutely assured, there would still occur occasional fluctuations in the prices of particular commodities, arising from a temporary glut or scarcity of such commodities in the general markets, caused by exceptionally favorable or unfavorable conditions, which might suddenly enlarge or diminish their production, or vary the demand for them. Such fluctuations cannot be avoided. They mark the ebb and flow of business and no more affect the general level of prices or prosperity than the ebb and flow of the tides affect the general level of the ocean. The producers of and dealers in each article should be better able than anybody else to foresee and guard against them, and have no reason to complain of them. But they may well complain when the general level of prices is disturbed by monetary legislation, which they could not foresee, are not responsible for, and whose injurious effects they could not by any degree of prudence avoid.

There have long existed two opposing theories in respect to money.

Views of the metallic school.

One school advocates a continuance of the generally prevailing system of money made of the two commodities, gold and silver. The especial merits claimed for this system are, that its workings are entirely automatic, that the money value of the commodities upon which it is based depends upon their useful intrinsic qualities and is measured by the average cost of their production, and that their volume depends upon the yield of the mines and not upon the caprice of legislation. They claim that the province of the government is not to create money, but to coin it, and thereby give to it the best authentication of purity and weight. Very many of this school claim that the investiture of such money with the function of legal tender is merely a designation of a coined commodity for which judgment shall be rendered in civil actions, and that the value of the commodity is not affected by it, while others, who concede that the use of such commodities as money adds something to their value, claim that the law, in conferring the legal-tender function, only ratified what long usage had established. They all maintain that there should be no restrictions on the coinage of any or all of both metals which the mines yield, and that when coined their legal-tender functions should be unlimited. They claim that every conceivable system of money has been tested for scores of centuries in the crucible of experience, and that the fittest, the metallic system, has alone practically survived. They admit the unsteadiness in the value, and consequently the imperfection, of metallic money caused by variations in the consumption, yield, and cost of producing the metals, and by many other unavoidable circumstances and conditions. They admit that at certain periods these causes may increase the value of the money unit to the advantage of the creditor, but they claim that at other periods opposite conditions would be sure to operate in the interest of the debtor, and that in the long run it would be "as fair for one as for the other," and that whatever might be the injustice inflicted on individuals and whatever the fluctuations in individual fortune, the general equitable balance between debtor and creditor would be maintained. They claim that the use of metallic money is spread over so vast an area that changes in the current metallic supply would be slow in making themselves felt, and that the elastic qualities of credit

expedients would prevent temporary changes from being felt at all. They claim that any decided increase or decrease in the value of metallic money would so stimulate or discourage mining as to restore the equilibrium sooner or later.

They admit that there is no remedy for the perturbations in the value of metallic money arising from fluctuations in the supply of the metals. But they claim that experience demonstrates that there is a limit to the accidents and freaks of production, and none to the folly and designs of legislation; and, consequently, that the perturbations in the value of paper money would be greater and equally without remedy. They urge that the power to increase or decrease the volume and value of money at will by legislation, and, consequently, to hold at will the fortunes of individuals and the prosperity of nations, would be a most dangerous one, and that the ever-present necessities of governments would be a constant temptation to its abuse.

They claim, finally, that whatever may be the faults of metallic money, those of paper money are worse; that nothing but intrinsic value can measure value, and that paper money has no other than a representative value, and therefore cannot measure intrinsic value, but that the precious metals possess intrinsic value, and for this reason are fitted to serve as its measure; that value inheres in the quality of a material thing, and not in mental estimation, and hence that nothing but a material thing possessing it intrinsically can serve as its true standard; that the danger of paper money is illustrated by precept, philosophy, and example, and that the financial, political, and social wrecks of states and people, with which it has punctuated history, should serve as warnings against it.

Views of the inconvertible paper, or fiat money school.

The other school advocates an exclusively fiat paper money, to be issued by the Government, which should possess no value on account of the intrinsic qualities of the material of which it is composed, but whose value should be extrinsic and derived from the useful functions with which the Government invested it, and whose each unit should be kept steady in value through legal limitations and regulations of the number of such units issued.

The views of this school are that utility, accompanied by limitation of quantity, is the basis of exchangeable value. That this utility may either depend upon such intrinsic qualities as would render the thing possessing them valuable to man in isolation as well as to man in society, or upon extrinsic, artificial qualities which society may confer upon any article, however intrinsically valueless, by endowing it with the power of performing the money function. That the evident fact that this function does not inhere in and cannot be conferred on any article so as to make it either valuable or useful to man in isolation, while it is essential to the very existence of society, demonstrates that money value is not derived from the useful, intrinsic qualities of the material upon which the money function may be conferred. They also call attention to the facts that, the usefulness to the individual of any article depends solely upon the intrinsic qualities which it may possess, and is not at all diminished by its existence in unlimited quantity, but that money, on the contrary, becomes entirely useless unless its quantity be limited. They conclude from these facts that the money value of the material of which money is composed rests solely upon the purely artificial and extrinsic qualities conferred upon it; that this value is

inseparable from society, and grows out of its need of and demand for an instrument of valuation and exchange.

They maintain that money is not in itself wealth, but a set of counters for computing and exchanging wealth, or, as was said by Bishop Berkeley, "*a ticket entitling to power and fitted to record and transfer this power;*" and that "*it is of little consequence what materials the tickets are made of:*" that there are certain qualities which are essential to a proper performance of the money function; that money should be steady in value, portable, divisible, distinguishable, and difficult of imitation; that of all these qualities steadiness in value is the one most essential and indispensable; that the highest office of money is that of measuring values, present and future, and that to perform this office equitably its each unit must possess through time a practically unfluctuating, unvarying purchasing power; that as this steadiness can be secured only through a limitation and regulation of its quantity, the power of limitation and regulation should be always present, and that to this end the material of money should be producible at all times without limit, and as near as possible without cost, and destructible without loss. They maintain that when the money function is conferred upon gold and silver, while the requirements of portability, divisibility, distinguishability, and difficulty of imitation are tolerably met, the requirements of constant attainability and inexpensiveness are not met at all, and that the superlatively essential requirement of steadiness in value is so imperfectly met as to render them unfit for money. They claim that the money function is the noblest of all functions and invests anything upon which it is conferred with a utility far greater than is possessed by any other exchangeable article known to man; that this utility is the true and only scientific basis of money-value; that the value begotten of this utility is all that is needed for money and all that money can possibly possess, and is all and the only kind of value ever estimated, when money, whether metallic or fiat is used. That whenever the material of money is in demand as a commodity, such demand can neither increase the money-value nor disturb either the commodity or the money until it rises to the level of the money demand, when it begins to destroy the money. That this is illustrated in subsidiary coinages and in the full-tender silver coinage of the Latin Union, the bullion-value of which, being below the money-value, prevents the metal in the coin from being either exported or used for other than money purposes. That in that coinage it is the legal tender function conferred by the sovereign authority and verified by its stamp, and not the metal that receives the impression, which really constitutes the money, and that this stamp of authority would be as efficient and valuable if impressed on paper, and that this had been shown in the experience of our fractional paper currency. That while the bullion in this coinage has added nothing to the value of the money, the government stamp has effectually deprived the world of the use of the bullion, and that the cost of the bullion is a loss to the people for which there is no compensation. That the aggregate of the money-value which can exist in any country is limited, and fixed automatically by its environment. That it bears a sure relation, however indeterminate, to the population, wealth, and exchanges of such country as modified by the character and habits of the people, their modes of transacting business, the rapidity with which their exchanges are effected, and many other considerations. That this value exists potentially wherever there are exchanges to be made. That in order to utilize this value it is only necessary for the law to materialize it, whereupon it becomes money. That it is independent of all other values, and cannot be mixed with

them. That it cannot be in any degree increased by the commodity value of the material selected for money. That the commodity value can only make itself felt through a destruction of the money. That as long as the commodity continues to perform the money function, the commodity value, instead of adding anything to the conferred money-value, is entirely suspended and non-effective. That the only argument that can be advanced in favor of investing any material substance possessing intrinsic value with the money function, is, that the holder would be secure to the extent of the commodity value, even though society, laws, and systems should break down. That there is no gain in this security, as it must have been purchased at the outset by the community, including the holders of money, at its full value, and that there would remain uncompensated the great losses to the community, including such holders, which arise from a vicious money. That when paper money depreciates, or even breaks down entirely, the process is ordinarily so gradual that the losses of individual holders are inappreciable. That the money of all countries, whatever may be its material, is nothing but the sum of the integrant parts into which the money-value is divided. That the value of each of these integrant parts, or units, will depend upon the number of parts into which this value is subdivided. That in case this value is subdivided through the use of the precious metals, these units, or integrant parts, are subjected to variations in their value through an increase of their number from unknown and accidental supplies from the mines, and through a decrease by the unknown number of such units which may be consumed in other uses. That while the cost of producing such units adds nothing to their money-value, the uncertainty of producing them, and the uncertain quantity destroyed after being produced, render it impossible to regulate the number, and consequently the value of, such units. They maintain that the aggregate of the money-value can only be increased or diminished by an increase or diminution of the productive forces and wealth which it measures and which govern it. That the increase or decrease of the number of the units of money can have no effect upon the aggregate of the money-value, but that the number of such units simply determines the fractional part of the whole value belonging to each unit; that the money-value will inhere in any material substance whatever upon which the sovereign authority may confer the money function. That whenever the law declares that paper in a certain form, upon being stamped with authoritative and distinguishing marks and devices, shall be invested with the money function, each piece of such paper so stamped becomes not a debt, nor a credit, nor a promise, dishonored or otherwise, nor a representative of gold or silver, nor of any one thing, but of all things; that it becomes the thing signified, not a sign, and to all intents and purposes lacking no quality, but possessing all, becomes money, pure, simple, and unadulterated, with a value not less real because not mixed with an intrinsic value, than the money-value conferred in the same manner and by the same authority on gold and silver, nor less real than the intrinsic value of those commodities. They claim that money can be maintained steadier and more uniform in purchasing power, and made to perform its true functions with greater exactness, when composed of some material substance always attainable and not possessing utility or value for other purposes, than when composed of such substances as gold and silver, possessing such values, and difficult and uncertain of attainment, and subject to other than money demands. That the commingling of money-value and commodity value in one substance is an intermingling of things whose uses are inconsistent with and whose elements have no affinity for each other; that it is a confounding of barter

with price, and of measure with the thing to be measured; that the uncertain, varying, and generally increasing demand for the commodity subjects the money to vicious perturbations in value, while the superior and constant demand for the money renders the commodity more steady in value than it would otherwise be; that the greater steadiness thus gained in the commodity value is of no importance or benefit whatever, while the resulting unsteadiness in the value of money is a transcendent injury to the world; that the commodity demand for gold and silver not only exerts a disturbing influence on the value of metallic money, but unfortunately always exerts it in the ruinous direction of increasing that value by diminishing its volume, and still more unfortunately that, as wealth and population increase, old uses increase and new uses are discovered; that to unite commodity and money in one substance is to plant in money the seeds of its own destruction; that the arts, resisting the invasion of their legitimate domain, are constantly absorbing the coin; that such money is costly and unscientific, and only an improvement on the barter system, and retains vicious ingredients of that barbarous method of exchange; that it is as imperfect an instrument for measuring values as would be a thermometer for measuring heat if its fluid indicator were subject to constant disturbances to an unknown extent from other influences than heat.

They maintain that the fluctuation in the value of metallic money caused by the encroachments of the commodity demand is sufficient of itself to condemn the use of gold and silver as money, but that when to this are added the enormous fluctuations in their supply the argument against their use becomes conclusive.

They claim that adequate metallic supplies in the future will depend, as in the past, upon the accidental discoveries of gold and silver mines, and upon the policy and mining laws of the governments controlling the locality of the discoveries, if fortunately they should be made.

They maintain that the industry of gold and silver mining is more subject to chance and less governed by the economic laws of production than any other pursuit, and consequently bears only an accidental relation to human efforts in other fields, and that therefore the product of such industry is uneven and ill-suited for a measure of all values. They claim that the world's supply of metallic money, and consequently its value, is not only subject to the vicissitudes inherent in the business of mining, but is largely increased or diminished, as the case may be, through political complications, and through other conditions which have no necessary connection with mining. As a signal illustration of this, they refer to the decrease of the supplies of gold and silver after 1809, caused by the revolutions in the Spanish-American colonies, and to the enormous increase of the supplies at a later period, through the acquisition and occupation of California, which resulted from the success of the democratic party in the close presidential election of 1844, and which might otherwise have been postponed indefinitely. That of these two noted changes in the metallic supply, resulting from facts having no necessary connection with mining, the first nearly bankrupted the world, while the second stimulated industry and commerce to an extent never before known.

They say that in addition to the evils which result from fluctuations in the supply of the precious metals is the fatal evil of inadequacy of supply which is now pressing upon the industry and commerce of the world with crushing severity; that this inadequacy is constantly becoming more marked and threatens to continue indefinitely. They refer to the facts that the yield of the precious metals since

1847 has been unprecedented, aggregating the enormous sum of $4,500,000,000; that this entire amount, swollen by the sums liberated by suspending countries, has been permitted to flow uninterruptedly into the few countries maintaining the specie basis; that notwithstanding all this prices in these latter countries have for a number of years been falling, and still have a downward tendency, and have already nearly sunk to the level of the prices of 1847, when the great mines of California were discovered; that the most prolific sources of metallic supply are showing unmistakable signs of exhaustion; that the yield is now and has been for some years stationary or declining; that the hope is neither entertained by the most scientific explorer nor the most visionary gold-seeker that mines equally prolific with those of Australia and California will ever be discovered; and that in the presence of this failing supply stands the constantly-increasing demand of steadily-advancing populations. They insist that these facts show that, even if the precious metals were otherwise fit for money, the utter improbability of obtaining them in sufficient quantity, except on the basis of ruinous prices, interposes an insuperable objection to a money system founded upon them.

They maintain that by reason of the great variations in the supply of the precious metals, and the purely accidental relation which that supply has borne to the world's demand for money, the movement of the human race in wealth and civilization has been fitful and spasmodic, and not always progressive; that the business of the world in all times past has been, through fluctuations in the supply of money, now stimulated by fever and now prostrated by collapse; that industry and commerce have been alternately borne high on the flood-tide of metallic production from newly-discovered mining-fields and stranded on the shoals of bankruptcy by the refluent ebb; that, unfortunately, the ebbs and flows of these tides are of unequal duration; that the flux of prosperity has usually lasted but a brief period, while the reflux of adversity, with its attendant circumstances of falling prices, industrial paralysis, and destitute populations, has been painfully prolonged; that the tide of metallic production which commenced its flood in 1847 turned in 1865 to an ebb that still continues, and threatens to pauperize populations and bankrupt nations; that through the discovery of steam as a motive power the obstacles of time and distance have been practically overcome, and that the world is no longer new; that the search for the precious metals has been pushed to every part of the earth, with indifferent success, by skillful explorers fresh from the fields of California and Australia, and hence, that the chances of discovering new and great mining-fields, and more especially gold-fields, if not absolutely at an end, are less hopeful than at any former period; that the exploitation of known mining-fields has been prosecuted in recent years with such energy, capital, skill, and appliances as to forbid the expectation of an increase in their yield, and especially such an increase as would supply the world's increasing demand for money; that however well metallic money may have been adapted to the circumscribed business and political and social conditions of the past, the growing industry and commerce of the world cannot afford to have their lusty limbs shackled by it in the future; that the extreme difficulty which attends the efforts of the United States to secure metallic money enough for its wants, although it is the only one of the large number of commercial countries in suspension that is attempting to reach a metallic basis, demonstrates the utter insufficiency of the stock of gold and silver for the general money uses of the commercial world; that this insufficiency is palpable, and generally admitted by the bullionists themselves, who,

nevertheless, persist in affirming that not only is the highest development of commerce and civilization, but even any tolerable degree of prosperity, impossible, except with metallic money; they submit that thus to insist that such money is essential to any advanced prosperity, and at the same time to admit that it can be obtained by only a few nations, and to the exclusion of all the others, is to deny the eternal fitness of things, to deny the adaptation of material conditions to human progress, to deny the harmonies of nature, and to deny that an intelligent and beneficent design is manifested in creation.

They maintain that as the most important function of money is to measure values and to preserve equities in time transactions, the great bulk of which are internal and between citizens of the same country, and all of which are expressed in the money of some particular country, it follows that any system of money that is common to several countries is a vicious one, in that it subjects the entire internal business of each of them to all the disasters originating in the political or financial mismanagement of the government, or in the political disturbances, follies, misfortunes, or reckless speculations of the inhabitants, of any one or all of the others; that money is simply the instrument of commerce and industry, and not their object; that a sufficiency of it is better than more and infinitely better than less; that the outflow of money from one country to another having money systems in common, is a double injury. That it is an injury to the country that receives it, and a greater injury to the country that parts with it. That it tends in the one instance to produce crises through inflation, and in the other panics through contraction. And that in addition to this is an injury to each on account of the derangement of the trade of the other; that the invention of money is but half completed when the necessary limitations and regulation of its quantity, and consequently of its value, are remitted not only to the vicissitudes and chances of mining, but to the vicissitudes in the business and legislation of foreign countries; that these facts and considerations, and many others which might be urged, show that metallic money is an inaccurate money, that it fills only in a moderate degree any of the requirements of a perfect system, while, in essential particulars, it so far fails to fill them as to render it unfit for an advanced civilization.

They claim, on the other hand, that every requirement of a perfect system can be met more nearly and more certainly by paper money than by any other ever devised. Not paper money based upon gold, silver, or any other fluctuating commodity, whose measure it should be; nor upon a promise of commodities, near or remote, definite or indefinite, of governments, or banks; nor like the French assignats, based upon lands; nor fastend to gold or silver by a chain sure to snap when the metals are wanted; nor convertible into bonds and thereby offering the bribe of interest for its withdrawal from circulation; nor of any use to its owner except when parted with; nor capable of yielding profit except when employed in the production and distribution of wealth; but an absolute money, whose value, conferred by the sovereign authority, and regulated by a pre-arranged and perfected system, and not by the passions and caprices of the hour, would rest impregnably on functions essential to civilization and progress.

They claim that it would be more portable, more difficult of imitation, more easily verified, more readily divisible, and less expensive than metallic money; that as quantity controls the value of money, the all-important quality of steadiness in value could be better assured through a system which subjects that quantity to absolute control than through the metallic system, which remits the regulation of quantity to accidents

and vicissitudes, industrial and political, sometimes through the resumption and suspension of the yield of the mines, and sometimes through the resumption and suspension of specie payments in any and every country; that as paper money is producible substantially without labor and without expense, its exclusive use would be an addition to the public wealth equal to the entire cost of supplying and keeping up the supply of the necessary quantity of metallic money. That in order to make it secure and possess the highest degree of utility, paper money should be issued exclusively by the government, to the exclusion of all other kinds of money; that it should be regulated in value through an equitable adjustment of quantity by virtue of laws which should take effect only upon the occurrence of conditions-precedent not dependent upon legislation, such as an increase or decrease of population; that it should be reciprocally receivable by government and people, and between the people themselves; that its each unit should be convertible, not at any specific time or place, nor into any specific quantity of any particular product of human industry, such as gold or silver, but at all times and in all places where the sovereign power gives it the right to circulate and to the full extent of the value determined as above, and into any and all of the products of human industry, including those metals.

They claim that every argument against investing with the money function a material not possessing intrinsic value is, when analyzed, an impeachment of the integrity and capacity of the people and of their fitness for self-government, and a claim that the regulation of the most important institution of civilization can be more safely remitted to the edicts of chance than to the guidance of human wisdom.

That the failure in times past to establish satisfactory systems of paper money no more proves that such systems are impossible than the innumerable abortive attempts throughout the ages to establish individual liberty proved that political freedom was impossible. That if the French assignats broke down, so also did the French republic, and mainly for the similar reasons, that the French people did not then fully comprehend the true nature of either liberty or money. That the same degree of virtue and enlightenment necessary for the establishment of the one is necessary for the establishment of the other. That the failures of efforts under revolutionary or despotic governments to establish paper money systems have no significance whatever. That no such effort has ever been made under free institutions firmly established, without which perfection in the money, or any other system which affects the general welfare, is impossible. That the failures of one age often become the established successes of the next. That every progressive movement of mankind has been tedious and toilsome and has been accomplished only through trial, suffering, and the disappointment of repeated failures. That every step of this progress has been impeded by a sinister conservatism which glorifies everything, even tyranny and stupidity, if hoary with age, and always seeks to rivet the needs of the present to the decaying and imperfect systems of the past, and to deny to the human race the hopes and possibilities of the future. That there have been the same evolutions of progress in money as in all other things. That in the rude original of society no kind of money was possible. That the first trade was by barter, after which, some one or more commodities attainable in the vicinage, and in general use and demand, were selected as the common medium through which all exchanges were filtered. That the use for that purpose of various metals by weight followed next, and, at a succeeding stage, gold, silver, and copper by weight, and after this their use in the form of coins, the value of which

coincided with the bullion-value. That in most countries coined money has been sometimes supplemented and sometimes superseded by promises to pay coin, which were always broken when coin was demanded. That the next step in many countries has been a coinage maintained above its bullion-value through limitation of quantity and the stamp of authority as in subsidiary silver coinages, and at the present time in the entire silver coinage in the states of the Latin Union. And that since the success of this last step in preserving, through limitation of quantity, a steadiness of money value above and wholly independent of intrinsic value has been assured, it would be presumptuous to affirm that the same means may not furnish, without any intrinsic value whatever, a better and steadier money than the world has ever seen, and that such money will not become the money of the future.

They admit that wherever society is divided into two distinct classes, the governing and the producing class, a fiat money is open to serious if not fatal objections, the chiefest of which is the danger of trusting its issue to the good faith of the rulers, whose profligacy, ambition, and extravagance would be sure to impel them to vitiate and ultimately destroy it by excessive issues, as they have from the same motives frequently debased metallic money, and that the scales and crucible afford some protection against the debasement of metallic money, while an overissue of paper money, when in the hands of the governing few, can neither be guarded against nor remedied. But they claim that in the present enlightened age the true function of money is better understood than at any former period. That with all the experience of the past to warn and guide, false systems may be avoided and a true system established. That such countries as have free, stable, and constitutional governments and advanced systems of jurisprudence, and which furnish universal opportunities for education and whose citizens are by the practice of liberty accustomed to self-imposed burdens and restraints, can be intrusted with the regulation of the volume and value of fiat money, with a full assurance that it will be regulated with wisdom and equity, and they maintain that it is the only kind of money whose value can be scientifically regulated.

A concession to the paper theory—A new scheme of metallic money that abandons automatic regulation and acknowledges the interference of government to be necessary to secure steadiness in the value of money.

The world has generally favored, theoretically if not practically, the automatic metallic system, and adjusted its business to it. Some nations adopted one metal as their standard, and some the other, and some adopted both. Those that adopted both metals served as a balance-wheel to steady with exactness their relative value. The practical effect of all this was the same as if all nations had adopted both, because it secured the entire stock of both at a fixed equivalency for the transaction of the business of the world. While some nations have changed their money metal, or, having had paper money, have resumed specie payments in one metal, the policy of a general demonetization of one of the metals was first broached only about twenty years ago. About ten years later a formidable propaganda was organized to fasten that policy upon the commercial world.

This new school of financial theorists advocate the retention of metal as the material of money, but favor its subjection to governmental interference in every respect. Whenever new mines are discovered, or old ones yield or promise to yield more abundantly, instead of freely ac-

cepting their product in accordance with the automatic theory, they advocate its rejection through the restriction or the absolute prohibition of the coinage of either or both metals, or through the limitation or the abolition of the legal-tender function of one of them. Whenever the interests of the creditor and income classes seem to be in danger of being impaired by an increase in the volume and decrease in the value of money, or, in other words, by a general rise in prices, these modern theorists are clamorous in double-standard countries for the demonetization of one of the money metals, and in single-standard countries for the shifting of the money function from the metal which promises the most to the one that promises the least abundant supply. They are extremely anxious for the retention of the *material* of which the money-standard is composed when such material is rising in value, and prices are falling, and exceedingly apprehensive of the evil and inconvenience which they predict as sure to result from changing it. Whenever a fall in prices occurs, through either a natural or artificial contraction in the volume of money, they maintain that it is due to antecedent inflation and extravagance, or to overproduction through persistent and reckless industry. If the contraction be natural, that it cannot be helped, and if artificial, that though it may inflict great temporary losses on the masses of the people, it will be sure to result in their ultimate benefit, and they console the sufferers with the comforting assurance that such contraction is necessary in order to reach the lowest depths of that "*hard-pan*" whose foundations they have previously undermined by demonetizing one of the metals, and upon which alone they claim that money, capital, and labor can securely and harmoniously rest. But when the material composing the standard is falling in value and prices are rising, they immediately discover that the maintenance of the *value* of the standard is the all-important consideration, and that its material is of no importance whatever and should be at once changed to "*redress the situation.*" After having reduced one of the metals to a commodity by depriving it of the money function, these theorists complacently point to the resulting fluctuations in its value as a justification of the act producing them, and as a conclusive proof of the unfitness for money of the demonetized metal.

This system retains all that is mischievous in both of the other systems, and rejects all that is advantageous in either. Metallic money, on this theory, is no longer automatic, but is as completely subjected to governmental control for all injurious purposes as paper money. But, unlike paper money, the control over this kind of metallic money can only be exercised in the baneful direction of decreasing its volume, and thereby making property cheaper and money scarcer and dearer.

This is a one-sided system, which can operate only in the interest of the security creditor, the usurer, and pawnbroker, whom it enables, through the falling prices which itself occasions, to swallow up the shrunken resources of the debtor, but is impotent to protect the interests of the unsecured business creditor, the debtor, or society, when, from any cause, the supply of the money metals becomes deficient.

The world has expended a vast amount of labor in the production of the precious metals, and has made great sacrifices in upholding the automatic metallic system of money, and has a right to insist that it shall be consistently let alone to work out its own conclusions, or that it be abandoned.

If the world, or any considerable portion of it, should follow the teachings of this new school of economists and discard one metal and one-half of the automatic theory, it need not surprise them if the resulting

financial and commercial disasters should teach and enforce the policy of discarding the other half of the theory and the other metal, and of establishing some system of money, however unscientific, under which all classes and interests could at least have an equal chance of protection.

THE DIFFERENT EFFECTS PRODUCED BY AN INCREASING, DECREASING, AND STEADY VOLUME OF MONEY.

Effects of an increasing volume of money.

Whenever gold and silver prices have become adjusted to a given stock of those metals, an increase of that stock, other things remaining unchanged, will cause a rise and a decrease will cause a fall in prices. But under such conditions other things never do remain unchanged. There are powerful causes, moral and material, which invariably operate, when money is increasing in volume, to moderate the rise in prices, and to intensify their fall when it is decreasing. Hence, the fall in prices caused by a decreasing volume of money would be much greater in degree than would be the rise caused by a proportionately increasing volume.

Whenever it becomes apparent that prices are rising and money falling in value in consequence of an increase of its volume, the greatest activity takes place in exchanges and productive enterprises. Every one becomes anxious to share in the advantages of rising markets. The inducement to hoard money is taken away, and consequently the disposition to hoard it ceases. Its circulation becomes exceedingly active, and for the very plain reason that there could be no motive for holding or hoarding money when it is falling in value, while there would be the strongest possible motive for exchanging it for property, or for the labor which creates property, when prices are rising. Under these circumstances labor comes into great demand and at remunerative wages. This results in not only increased production, but increased consumption. The wants and expenditures of laborers increase with their earnings. Large enterprises, safe and unsafe, are at such times inaugurated by eager adventurers, and as frequently as otherwise upon insufficient capital.

If, however, the volume of money should increase in undue proportion to the new demands for it so as to cause a continuous and persistent rise in prices, it would encourage gambling in prices instead of encouraging production, and would end in the destruction of that industry which it at first stimulated. Such would be the haste to convert money into property that the price of all forms of property would advance more rapidly than the wages of labor. The laborer, excited by the apparent increase in the value of everything, would soon become discontented with the slow accumulations of his increased wages. Using his surplus earnings as a basis of credit, which is readily extended upon small margins when prices are rising, he would leave the field of productive industry for the illusory but more inviting field of speculative venture.

An increasing volume of money sometimes needed, after long periods of prostration.

It may, however, be possible that when industry has been dwarfed, commerce paralyzed, and the spirit of enterprise crushed out by a long-continued shrinkage in the volume of money and falling prices, the stimulus of rising prices would be a necessary temporary treatment.

At the Christian era the metallic money of the Roman Empire amounted to $1,800,000,000. By the end of the fifteenth century it had shrunk to

less than $200,000,000. During this period a most extraordinary and baleful change took place in the condition of the world. Population dwindled and commerce, arts, wealth, and freedom all disappeared. The people were reduced by poverty and misery to the most degraded conditions of serfdom and slavery. The disintegration of society was almost complete. The conditions of life were so hard, that individual selfishness was the only thing consistent with the instinct of self-preservation. All public spirit, all generous emotions, all the noble aspirations of man shriveled and disappeared as the volume of money shrunk and as prices fell.

History records no such disastrous transition as that from the Roman Empire to the Dark Ages. Various explanations have been given of this entire breaking down of the frame-work of society, but it was certainly coincident with a shrinkage in the volume of money, which was also without historical parallel. The crumbling of institutions kept even step and pace with the shrinkage in the stock of money and the falling of prices. All other attendant circumstances than these last have occurred in other historical periods unaccompanied and unfollowed by any such mighty disasters. It is a suggestive coincidence that the first glimmer of light only came with the invention of bills of exchange and paper substitutes, through which the scanty stock of the precious metals was increased in efficiency. But not less than the energizing influence of Potosi and all the argosies of treasure from the New World were needed to arouse the Old World from its comatose sleep, to quicken the torpid limbs of industry, and to plume the leaden wings of commerce. It needed the heroic treatment of rising prices to enable society to reunite its shattered links, to shake off the shackles of feudalism, to relight and uplift the almost extinguished torch of civilization. That the disasters of the Dark Ages were caused by decreasing money and falling prices, and that the recovery therefrom and the comparative prosperity which followed the discovery of America were due to an increasing supply of the precious metals and rising prices, will not seem surprising or unreasonable when the noble functions of money are considered. Money is the great instrument of association, the very fiber of social organism, the vitalizing force of industry, the protoplasm of civilization, and as essential to its existence as oxygen is to animal life. Without money civilization could not have had a beginning; with a diminishing supply it must languish, and, unless relieved, finally perish.

Symptoms of disasters similar to those which befell society during the Dark Ages were observable on every hand during the first half of this century. In 1809 the revolutionary troubles between Spain and her American colonies broke out. These troubles resulted in a great diminution in the production of the precious metals, which was quickly indicated by a fall in general prices. As already stated in this report, it is estimated that the purchasing-power of the precious metals increased between 1809 and 1848 fully 145 per cent., or, in other words, that the general range of prices was 60 per cent. lower in 1848 than it was in 1809. During this period there was no general demonetization of either metal and no important fluctuation in the relative value of the metals, and the supply was sufficient to keep their stock good against losses by accident and abrasion. But it was insufficient to keep the stock up to the proper correspondence with the increasing demand of advancing populations. The world has rarely passed through a more gloomy period than this one. Again do we find falling prices and misery and destitution inseparable companions. The poverty and distress of the industrial masses were intense and universal, and, since the discovery of the mines of America, without a parallel. In England the sufferings of the people found ex-

pression in demands upon Parliament for relief, in bread-riots, and in immense Chartist demonstrations. The military arm of the nation had to be strengthened to prevent the all-pervading discontent from ripening into open revolt. On the Continent the fires of revolution smoldered everywhere and blazed out at many points, threatening the overthrow of states and the subversion of social institutions.

Whenever and wherever the mutterings of discontent were hushed by the fear of increased standing armies, the foundations of society were honey-combed by powerful secret political associations. The cause at work to produce this state of things was so subtle, and its advance so silent, that the masses were entirely ignorant of its nature. They had come to regard money as an institution fixed and immovable in value, and when the price of property and the wages of labor fell, they charged the fault, not to the money, but to the property and the employer. They were taught that the mischief was the result of overproduction. Never having observed that overproduction was complained of only when the money stock was decreasing, their prejudices were aroused against labor-saving machinery. They were angered at capital, because it either declined altogether to embark in industrial enterprises or would only embark in them upon the condition of employing labor at the most scanty remuneration. They forgot that falling prices compelled capital to avoid such enterprises on any other condition, and for the most part to avoid them entirely. They did not comprehend that money in shrinking volume was the prolific parent of enforced idleness and poverty, and that falling prices divorced money, capital, and labor, but they none the less felt the paralyzing pressure of the shrinking metallic shroud that was closing around industry.

The increased yield of the Russian gold-fields in 1846 gave some relief and served as a parachute to the fall in prices, which might otherwise have resulted in a great catastrophe. But the enormous metallic supplies of California and Australia were all needed to give substantial and adequate relief. Great as these supplies were, their influence in raising prices was moderated and soon entirely arrested by the increasing populations and commerce which followed them. In the twenty-five years between 1850 and 1876 the money stock of the world was more than doubled, and yet at no time during this period was the general level of prices raised more than 18 per cent. above the general level in 1848. A comparison of this effect of an increasing volume of money after 1848 with the effect of a decreasing volume between 1809 and 1848, strikingly illustrates how largely different in degree is the influence upon prices of an increasing or decreasing volume of money. The decrease of the yield of the mines since about 1865, while population and commerce have been advancing, has already produced unmistakable symptoms of the same general distrust, non-employment of labor, and political and social disquiet, which have characterized all former periods of shrinking money.

Steadiness in the volume of money essential to prosperity.

It is in a volume of money keeping even pace with advancing population and commerce, and in the resulting steadiness of prices, that the wholesome nutriment of a healthy vitality is to be found. The highest moral, intellectual, and material development of nations is promoted by the use of money unchanging in its value. That kind of money, instead of being the oppressor, is one of the great instrumentalities of commerce and industry. It is as profitless as idle machinery, when it is idle; differing from all other useful agencies, it cannot benefit

its owner except when he parts with it. It is only under steady prices that the production of wealth can reach its permanent maximum, and that its equitable distribution is possible. Steadiness in prices insures labor to all and exacts labor from all. It gives security to credit and stability and prosperity to business. It encourages large enterprises, requiring time for their development, and crowns with success well-matured and carefully-executed plans. It discourages purely speculative ventures, and especially those based upon disaster. It encourages actual transactions rather than gambling on future prices. It metes out justice to both debtor and creditor, and secures credit to those who deserve it. It prevents capital from oppressing labor and labor from oppressing capital, and secures to each its just share of the fruits of industry and enterprise. It secures a reasonable interest for its use to the lenders of money, and a just share in the profits of production to the borrower. It keeps up the distinction between a mortgage and a deed. It insures a moderate competence to the many rather than colossal fortunes to the few at the expense of the many.

It may be impossible to devise any system through which the volume of money shall always increase or decrease in corresponding ratio to the increase or decrease of all those things which it is its function to measure. If it be admitted that the volume of money should increase *pari passu* with either wealth, commerce, or population, the least measure of increase would be that based on population, as in commercial countries both wealth and exchanges are multiplied more rapidly than population. The narrower measure of increase would probably be the more accurate one, as the thing to be measured and which it is important should have an unvarying value is human effort, and as that can neither be increased nor diminished except through an increase or diminution of the population, it would seem that the volume of money should only vary with population.

As steadiness in prices, which depends on steadiness in the relation between money and all other things, is essential to prosperity, it follows that in any change in money-systems the volume of the new money, that is to say, the number of units of the new money issued, should if possible be neither greater nor less than the number of units in circulation at the time of the change. A strict observance of this rule, whatever may be the material of money, will prevent any general rise or fall in prices.

The quantity of metallic money, or of paper money constantly convertible into metallic money, which can be maintained in the circulation of any particular country cannot be controlled arbitrarily. It cannot be greater than such an amount as may be requisite to maintain the prices of such country at a substantial parity with the prices of all other countries using the same kind of money. Any change from this amount must be temporary, and will be soon automatically corrected by the course of exchange.

The volume of inconvertible paper money, on the contrary, is local to, and subject to the control of, the country issuing it, and should be regulated solely with reference to existing prices, and consequently should be neither increased nor diminished, except in correspondence with changes in population and commerce.

The proposition often made that the quantity of money in this country should amount now to as much *per capita* as it did at some anterior period, or to as much *per capita* as in England or France, rests on no philosophical basis whatever. Irrespective of time-contracts, it is of no consequence what the volume of money may be, provided it be subdivided

into such number of units, or fractions of units, as would meet physical requirements, while the equity of such contracts can be met only by maintaining the relation between money and other things undisturbed.

Equally fanciful and erroneous is the proposition that the rates of interest for money can be lowered by increasing its quantity. It is prices, and not interest, which depend upon the volume of money. The rates for the use of loanable capital depend upon entirely different factors; such as the current rates of business profits, productiveness of the soil, the security of property, the stability of government, pressure of taxation, and the fiscal policies of governments, such as the maintenance of public debts, which necessarily increase the rate of interest. In truth, increasing the amount of money tends indirectly to increase the rate of interest by stimulating business activity, while decreasing the amount of money reduces the rate of interest by checking enterprises and thereby curtailing the demand for loans. This is signally illustrated by the present condition of things in every part of the commercial world. The rate of interest should be, and under a correct money system would be, merely an expression of the rate of profit which could be made through the use of borrowed capital.

Effects of a decreasing volume of money.

While the volume of money is decreasing, even although very slowly, the value of each unit of money is increasing in corresponding ratio, and property is falling in price. Those who have contracted to pay money find that it is constantly becoming more difficult to meet their engagements. The margins of securities melt rapidly away, and the confiscation by the creditor of the property on which they are based becomes only a question of time. All productive enterprises are discouraged and stagnate because the cost of producing commodities to-day will not be covered by the prices obtainable for them to-morrow. Exchanges become sluggish, because those who have money will not part with it for either property or services, beyond the requirements of actual current necessities, for the obvious reason that money alone is increasing in value, while everything else is declining in price. This results in the withdrawal of money from the channels of circulation, and its deposit in great hoards, where it can exert no influence on prices. This hoarding of money from the nature of things must continue and increase not only until the shrinkage of its volume has actually ceased, but until capitalists are entirely satisfied that money lying idle on special deposit will no longer afford them revenue, and that the lowest level of prices has been reached. It is this hoarding of money, when its volume shrinks, which causes a fall in prices greater than would be caused by the direct effect of a decrease in the stock of money. Money in shrinking volume becomes the paramount object of commerce instead of its beneficent instrument. Instead of mobilizing industry, it poisons and dries up its life-currents. It is the fruitful source of political and social disturbance. It foments strife between labor and other forms of capital, while itself hidden away in security gorges on both. It rewards close-fisted lenders and filches from and bankrupts enterprising borrowers. It circulates freely in the stock exchange but avoids the labor exchange. It has in all ages been the worst enemy with which society has had to contend.

The great and still continuing fall in prices in the United States has proved most disastrous to nearly every industrial enterprise. The bitter experience of the last few years has been an expensive but most thorough

teacher. It has taught capitalists neither to invest in nor loan money on such enterprises, and just as thoroughly has it taught business men not to borrow for the purpose of inaugurating or prosecuting them. Of the few business enterprises now being successfully prosecuted, the larger part are based on a monopoly secured either by patents or exceptional conditions. The business man has discovered that the less active and enterprising he is the better he is off. The manufacturer avoids loss by damping down furnace-fires and slowing down machinery.

The mining companies would find profit in inactivity, and would probably suspend operations, were it not for the great loss they would sustain in doing so. Mines can be properly opened only through a great outlay of capital, which would be practically lost if they were closed down for any considerable period of time. The filling up with water, the caving in of galleries, the crushing in of shafts, the rusting of machinery, and the general disarrangement of their interior workings would require for their repair a not much less expenditure than was necessary for their original opening. Hoping for better times, they therefore struggle on against an adverse current, without profit and generally only without loss by reducing their miscellaneous expenditures to the lowest possible point and wages to a starvation level. The miners ascend from the dark and gloomy depths of the mine with their scanty pittance called wages, to find in a famishing household a gloom that is more profound. They await with heroic fortitude and a sometimes impatient hope the advent of another Sir Humphrey Davy, with a lamp capable of shedding light on the cause of existing evils, and of protecting them and all others who depend on their labor for their daily bread against a lingering misery more to be dreaded than the deathly danger that lurks in the treacherous fire-damp.

The stockholders of railroads have suffered a vast shrinkage in the value of their property and in the volume of their traffic and in rates of transportation, while their debts have remained nominally the same but really increasing. In order to make their decreased receipts meet the interest on their bonds, they are forced to reduce their operating expenses to the lowest possible point. Their struggles seem to be in vain, and unless that system can be changed which is making each dollar which they owe more valuable, and at the same time causing a shrinkage in their business, and which is chaining labor and all other forms of capital to the chariot-wheels of money-capital, they will, one after another, be swallowed by the bondholders. In the end the stockholders will be entirely out of the account, and the contest will be between different classes of bondholders, if that can be called a contest where victory is assured in advance to the liens which have priority.

Farmers whose lands are not mortgaged, and their employés who at least are insured against absolute want, best escape the evils of the times, but the prices of agricultural products must finally decline with the reduction in the number and means of the consumers. The tendency of falling prices is to break down the vast diversified interests of the country, and to force a constantly-increasing proportion of the population into the one single primitive industry of cultivating the soil. The United States, instead of continuing a highly commercial and manufacturing nation, will, until falling prices are checked, become more and more exclusively agricultural and pastoral.

Securities have already become so impaired through falling prices that loanable capital has fled affrighted from the newer and more sparsely settled sections of the country and accumulated in large amounts in the great financial centers where securities are more ample. The per-

sonal and property securities of individuals have generally ceased to be available, except at the highest rates of interest, or at ruinously low valuations. Money can be borrowed readily only upon such securities as bonds which are based on the unlimited tax-levying power of the Government, or upon the bonds and stocks of first-class trunk-lines of railroad corporations, whose freight and fare rates are practically a tax upon the entire population and resources of the regions which they traverse and supply. The competition among capitalists to loan money on these more ample securities has become very keen, and such securities command money at unprecedentedly low rates. These low and lowering rates of interest, instead of denoting financial strength and industrial prosperity, are a gauge of increasing prostration. Large accumulations of money in financial centers, instead of being caused by the overflow of a healthful circulation, or even a proof of a sufficient circulation, are unmistakable evidence of a congested condition, caused by a decreasing and insufficient circulation. The readiness with which Government bonds bearing a very low rate of interest are taken, instead of showing that the credit of the Government has improved, is melancholy evidence of the prostrated condition to which industry and trade have been reduced. There need be no haste in refunding the public debt at the rates now proposed and considered low. Unless the progress of the commercial world in the policy of contracting money by demonetizing silver is checked, bonds bearing a much lower rate of interest than any yet offered will be gladly accepted by capitalists here and in Europe. When the money stock is diminishing and prices are falling, the lender not only receives interest, but finds a profit in the greatly increased value of the principal when it is returned to him. A loan of money made in 1809, if repaid in 1848, would have been repaid with an addition of 145 per cent. in the purchasing power of principal and interest, besides all the interest paid. Those who have loaned money to this Government since 1861 have already received nearly as much in the increased value of their principal as in interest, and all the probabilities are, in respect to the four per cent. thirty-year national bonds now being negotiated, if they are redeemed in gold, that more profit will be made by the augmentation in the value of principal than through interest. Indeed, the signs of the times are, that the bonds of a country possessing the unbounded resources and stable institutions of the United States, payable in gold at the end of thirty years without any interest whatever, would, through the increase of the value of that metal, prove a most profitable investment.

Effects of a shrinking volume of money on productive industry.

The worst effect, however, economically considered, of falling prices, is not upon existing property nor upon debtors, evil as it is, but upon laborers whom it deprives of employment and consigns to poverty, and upon society, which it deprives of that vast sum of wealth which resides potentially in the vigorous arms of the idle workman. A shrinking volume of money transfers existing property unjustly, and causes a concentration and diminution of wealth. It also impairs the value of existing property by eliminating from it that important element of value conferred upon it by the skill, energy, and care of the debtors from whom it is wrested. But it does not destroy any existing property, while it does absolutely annihilate all the values producible by the labor which it condemns to idleness. The estimate is not an extravagant one that there are now in the United States three million persons willing to work, but who are idle because they cannot obtain employment.

This vast poverty-stricken army is increasing and will continue to increase as long as falling prices shall continue to separate money capital, the fund out of which wages is paid, from labor, and to discourage its investment in other forms of property.

Money capital, labor, and other forms of capital are the warp and woof of the economical system. Labor, co-operating with the forces of nature, is the source of all wealth, and to reach the highest degree of effectiveness, it must be classified through the aid of capital and supported by capital during the process of production and be measured and paid in money, each unit of which is a sight-draft on all other forms of property, bearing a value in proportion to the number of such drafts. In order that any country may reach the maximum of material prosperity, certaid conditions are indispensable. All its labor, assisted by the most approven machinery and appliances, must be employed, and the fruits of industry must be justly distributed. These conditions are only possible when capital is absolutely protected against violence and free from illegitimate legislative interference, and when the laborer is protected in his natural right to dispose of his labor in such manner as he may prefer. They are utterly impossible when the money-stock is shrinking and the money-value of property and services is declining. Howsoever great the natural resources of a country may be, however genial its climate, fertile its soil, ingenious, enterprising, and industrious its inhabitants, or free its institutions, if the volume of money is shrinking and prices are falling, its merchants will be overwhelmed with bankruptcy, its industries will be paralyzed, and destitution and distress will prevail.

The instinct of self-interest is the mainspring of industrial and commercial activity. It is the animating motive alike of the capitalist and of the laborer. Without it, no labor would be performed, nor would capital have an existence. If money capital is withdrawn from productive enterprises, it is from the apprehension of loss and from the same instinct of thrift through which it was acquired. It is natural that the money capitalist should exact from labor all he can in exchange for his money, and that the laborer should exact all the money he can in exchange for his labor. What is known as the conflict between capital and labor, is not so much a conflict between other forms of capital and labor as it is between money and labor. Indeed, the conflict between money and other forms of capital is as distinctly marked and quite as severe as the conflict between money and labor, and in that conflict other forms of capital suffer fully as much as labor, the only difference being that they are better able to endure losses. Other forms of capital must be constantly converted into money in order to pay wages and to meet other demands incident to industrial enterprises. When the stock of money is shrinking and prices are falling, this conversion can only be made at rates continually growing more unfavorable, while at the same time the products of the labor for whose wages sacrifices have been made are also undergoing a shrinkage of money-value. Thus loss and sacrifice are encountered at every turn, and the owners of other capital than money shrink from the friction of exchange, withdraw from productive enterprises, and only exchange as much of their property for money as will suffice to meet the necessary expenditures of living, which are reduced to the most economical level, as it is principal and not income which is being consumed. Little more labor will be employed under these circumstances than is sufficient to support the owners of capital on this parsimonious basis, and as a consequence the labor market will be overstocked, and the competition between laborers will reduce wages to a starvation level. But during this period, when property is being sacri-

ficed to meet current necessities, and laborers are being remitted to idleness and destitution, money fattens on the general disaster. Under any money-system whatever, labor, money, and other forms of capital confront each other as opposing forces, each seeking through a natural instinct to secure as much as possible of the others in exchange. These forces, although always operating against, are not necessarily inimical to or destructive of each other. On the contrary, under a just money-system, they are not even harmful to each other. The conflict between them is essential to the proper adjustment and harmonious working of all parts of the economical machinery. They are the centripetal and centrifugal forces of the industrial system. The equilibrium of all things is maintained through counterbalances. It is out of the action and counteraction of antagonistic forces that the harmonies of the universe are evolved. But under an unjust money-system, under a system which through law or accident fails to regulate the quantity of money so as to preserve the equilibrium between money and the other factors of production, the conflict between money and labor and other forms of capital becomes destructive and ruinous. It is in the shadow of a shrinking volume of money that disorders social and political gender and fester, that communism organizes, that riots threaten and destroy, that labor starves, that capitalists conspire and workmen combine, and that the revenues of governments are dissipated in the employment of laborers, or in the maintenance of increased standing armies to overawe them. The peaceful conflict which under a just money-system is continually waged between money-capital and labor, and which tends only to secure the rights of each, and is essential to the progress of society, is changed under a shrinking volume of money to an unrelenting war, threatening the destruction of both. Money, in either shrinking or unduly increasing volume, like a dissolving chemical, separates capital from labor. It is not against capital, but against the false financial system that permits the volume of money to either shrink or unduly increase, that the hostility of society should be aroused. Let labor and capital be put on equal terms, so that idle capital will be as unfruitful as idle labor, and the conflict between them will cease to be destructive. An unjust money-system produces an unnatural relation between labor, capital, and money, and the resulting evils cannot be remedied by special legislation on particular cases, nor by general legislation abridging the natural rights of either. Such legislation would be futile and impertinent, destructive of that freedom of individual action so essential to progress, and subversive of the true interests of all classes of society, and would powerfully tend to the overthrow of free institutions. The equitable adjustment of the correlative demands of capital and labor cannot be made through violence, and is utterly impossible through any legal or other contrivance, under any system that permits contraction or undue expansion of that great instrument which measures alike the property of the capitalist and the labor of the workman. It is only through the action and counteraction of the antagonistic forces of capital and labor, automatically operating under a just money-system, that equity and harmony can be evolved.

The very same reasons which make capitalists refuse to exchange money, whose command over property is increasing, for property, whose command over money is decreasing, also make them refuse to exchange it for labor for the production of property. In a commercial sense, industrial enterprises are never undertaken nor carried on, except with the hope and expectation of gain. This expectation, unless under exceptional conditions, falling markets destroy. While capitalists, for these

reasons, cannot afford to invest money in productive enterprises, still less can anybody afford to borrow money for such investments at any rate of interest, however low, and but little money is being now borrowed, except for purely speculative ventures, or to supply personal and family wants, or to renew old obligations. Money withdrawn from circulation and hoarded in consequence of falling prices, although neither paying wages, nor serving to exchange the fruits of industry, nor performing any of the true functions of money, is nevertheless not unproductive. It may not be earning interest, but it is enriching its owner through an increase of its own value, and that, too, without risk, and at the expense of society. If this were not the case, and if money were, while idle, losing a little in value instead of gaining, or if it simply held its own, it would be constantly diminished to the extent of the necessary expenditures of its owners who, under such conditions would be impelled by every instinct of thrift to seek for revenue through its employment in productive enterprises. The peculiar effect of a contraction in the volume of money is to give profit to the owners of unemployed money, through the appreciation of its purchasing power, by the mere lapse of time. It is falling prices that robs labor of employment and precipitates a conflict between it and money capital, and it is the appreciating effect which a shrinkage in the volume of money has on the value of money that renders the contest an unequal one, and gives to money capital the decisive advantage over labor and over other forms of capital invested in industrial enterprises. Idle machinery and industrial appliances of all kinds, instead of being productive of profit, are a source of loss. They constantly deteriorate through rust and waste. They cannot escape the assessor and tax-gatherer, as the bulk of money does, and must pay extra insurance when idle. Labor, unlike money, cannot be hoarded. The day's labor unperformed is so much capital lost forever to the laborer and to society. It being his only capital, his only means of existence, the laborer cannot wait on better times for better wages. Absolute necessity forces him to dispose of it on any terms which the owners of money may dictate. These are the conditions which surround the laborer throughout the commercial world to-day. The labor of the past is enslaving the labor of the present. At least that portion of the labor of the past which has been crystallized into money is enabled through a shrinkage of its volume and while lying idle in the hands of its owners to increase its command over present labor and over all forms of property and to transform vast numbers of honest and industrious workmen into tramps and beggars. These laborers must make their wants conform to their diminished earnings. They must content themselves with such things as are absolutely essential to their existence. Consumption is therefore constantly shrinking toward such limits as urgent necessities require. Production, which must be confined to the limits indicated by consumption, is constantly tending toward its minimum, whereas its appliances, built up under more favorable conditions, are sufficient to supply the maximum of consumption. Thus idle labor, idle money, idle machinery, and idle capital stand facing each other, and the stagnation spreads wider and wider. The future affords no hope or prospect of improvement, except through a change in financial policies. Prices have been persistently falling throughout the world since 1873, and as fast and as far in specie-paying countries as elsewhere. If the policy of chaining the industry and commerce of the world to a single metal be persisted in by the United States, Germany, and the other European countries acting in concert with them, money must still rise in value, and prices must continue to fall. The depression in productive industry

will become more deathly, and the number of idle laborers will indefinitely multiply. The loss which this country sustains by reason of the enforced idleness of three million persons who, although idle, must still in some scanty way be supplied with food, clothing, and shelter, is in the aggregate very great. If it be estimated at one dollar per day for each laborer, it would amount in two years to a sum sufficient to discharge the national debt. It would pay the interest, at five per cent. per annum, on eighteen thousand million dollars. It would be a sum more than sufficient to supply anew each year the circulating medium of the country. It would amount, in four years, to a greater sum than the world's entire gold product has amounted to in the last fifty prolific years. It would aggregate in ten years a value far greater than the value of the world's entire product of both gold and silver for the last hundred years. It would amount in four years to a sum more than sufficient to duplicate and stock every mile of railroad now in the United States. Contrasted with the startling sum thus annually lost through the shrinkage of money and falling prices, the amount which could by any possibility be lost in a generation through fluctuations in the relative values of gold, silver, and paper, would weigh as mere dust in the balance. If to this loss be added that caused by the non-employment of productive machinery and appliances, the aggregate becomes appalling. The average stocks of nearly all commodities are at no time sufficient for more than a few months' consumption. Without constant reproduction mankind would soon be stripped of all their movable possessions. No more fatal blow, therefore, could be directed against the economical machinery of civilized life than one against labor, and that blow can be most effectively delivered through a policy which strikes down prices. If all debts in this country had been doubled by an act of legislation, it would have been a far less calamity to the debtor and to the country than the increase in their real burden already caused by a contraction in the volume of money. And infinitely more disastrous in every sense than an unjust increase in the burden of debt is the universal stagnation of industry and commerce resulting from the same cause. The doubling of debts would have left the productive forces unimpaired, while falling prices are sapping them insidiously and fatally. Nations have often exhibited an astonishing capacity for sustaining and repairing the destruction of great and protracted wars. The explanation of this will be found in the fact that their productive forces have at such times continued vigorous and active. Armies in barracks and on parade are as essentially non-producers as when actively engaged, and a considerable proportion of the additions made to armies in times of war are recruited from the ranks of non-producers. England was never more prosperous than during the Napoleonic wars. The Northern and Western States of this Union were never more prosperous than during the civil war, and for some time afterward. So long as all the productive forces are active almost any burden can be borne. The debts of the country, great as they are, would scarcely weigh as a feather if all its labor were employed. Indeed, this country could better afford, in an economical view, to support one million of soldiers in the field, than to support its present army of three millions that falling prices have conscripted into the ranks of non-producers.

Authority emphasizes what experience teaches.

All respectable authorities agree as to the relative effects of an increasing and decreasing money. Several of them are presented, the

earliest in point of time being the following, from David Hume's Essay on Money:

It is certain that since the discovery of the mines in America industry has increased in all the nations of Europe. * * We find that in every kingdom into which money begins to flow in greater abundance than formerly, everything takes a new face; labor and industry gain life; the merchant becomes more enterprising, the manufacturer more diligent and skillful, and even the farmer follows his plow with greater alacrity and attention. * * * It is of no manner of consequence with regard to the domestic happiness of a state whether money be in a greater or less quantity. The good policy of the magistrate consists only in keeping it, if possible, still increasing; because by that means he keeps alive a spirit of industry in the nation and increases the stock of labor, in which consists all real power and riches. A nation whose money decreases is actually at that time weaker and more miserable than another nation which possesses no more money, but is on the increasing hand.

Alexander Hamilton, in his report (1791) on the mint, says:

To annul the use of either of the metals as money is to abridge the quantity of circulating medium, and is liable to all the objections which arise from a comparison of the benefits of a full with the evils of a scanty circulation.

Thomas Jefferson, in a letter to Mr. Hamilton, (February, 1792,) says:

I concur with you that the unit must stand on both metals.

William H. Crawford, Secretary of the Treasury, in a report (February 12, 1820) to Congress, says:

All intelligent writers on currency agree that when it is decreasing in amount, poverty and misery must prevail.

Mr. R. M. T. Hunter, in a report (1852) to the United States Senate, says:

Of all the great effects produced upon human society by the discovery of America, there were probably none so marked as those brought about by the great influx of the precious metals from the New World to the Old. European industry had been declining under the decreasing stock of the precious metals, and an appreciating standard of values; human ingenuity grew dull under the paralyzing influences of declining profits, and capital absorbed nearly all that should have been divided between it and labor. But an increase in the precious metals, in such quantity as to check this tendency, operated as a new motive-power to the machinery of commerce. Production was stimulated by finding the advantages of a change in the standard on its side. Instead of being repressed by having to pay more than it had stipulated for the use of capital, it was stimulated by paying less. Capital, too, was benefited, for new demands were created for it by the new uses which a general movement in industrial pursuits had developed; so that if it lost a little by a change in the standard, it gained much more in the greater demand for its use, which added to its capacity for reproduction, and to its real value.

The mischief would be great, indeed, if all the world were to adopt but one of the precious metals as the standard of value. To adopt gold alone would diminish the specie currency more than one-half; and the reduction the other way, should silver be taken as the only standard, would be large enough to prove highly disastrous to the human race.

The Encyclopædia Britannica, 1859, (article Precious Metals, by J. R. McCulloch,) says:

A fall in the value of the precious metals, caused by the greater facility of their production, or by the discovery of new sources of supply, depends in no degree on the theories of philosophers, or the decisions of statesmen or legislators, but is the result of circumstances beyond human control; and although, like a fall of rain after a long course of dry weather, it may be prejudicial to certain classes, it is beneficial to an incomparably greater number, including all who are engaged in industrial pursuits, and is, speaking generally, of great public or national advantage.

Ernest Seyd, 1868, (Bullion, page 613,) says:

Upon this one point all authorities on the subject are agreed, to wit, that the large increase in the supply of gold has given a universal impetus to trade, commerce, and industry, and to general social development and progress.

The American Review (1876) says:

Diminishing money and falling prices are not only oppressive upon debtors, of whom, in modern times, states are the greatest, but they cause stagnation in business, reduced production, and enforced idleness. Falling markets annihilate profits, and as it is only the expectation of gain which stimulates the investment of capital in opera-

tions, inadequate employment is found for labor, and those who are employed can only be so upon the condition of diminished wages. An increasing amount of money, and consequently augmenting prices, are attended by results precisely the contrary. Production is stimulated by the profits resulting from advancing prices; labor is consequently in demand and better paid, and the general activity and buoyancy insure to capital a wider demand and higher remuneration.

Leon Fauchet, (1843,) in Researches upon Gold and Silver, says:

If all the nations of Europe adopted the system of Great Britain, the price of gold would be raised beyond measure, and we should see produced in Europe a result lamentable enough.

Before a French monetary convention in 1869 testimony was given by the late M. Wolowski, by Baron Rothschild, and by M. Rouland, governor of the Bank of France.

M. Wolowski said:

The sum total of the precious metals is reckoned at fifty milliards, one-half gold and one-half silver. If, by a stroke of the pen, they suppress one of these metals in the monetary service, they double the demand for the other metal, to the ruin of all debtors.

M. Rouland, governor of the Bank of France, said:

We have not to do with ideal theories. The two moneys have actually co-existed since the origin of human society. They co-exist because the two together are necessary, by their quantity, to meet the needs of circulation. This necessity of the two metals, has it ceased to exist? Is it established that the quantity of actual and prospective gold is such that we can now renounce the use of silver without disaster?

Baron Rothschild said:

The simultaneous employment of the two precious metals is satisfactory and gives rise to no complaint. Whether gold or silver dominates for the time being, it is always true that the two metals concur together in forming the monetary circulation of the world, and it is the general mass of the two metals combined which serves as the measure of the value of things. The suppression of silver would amount to a veritable destruction of values without any compensation.

At the session (October 30, 1873) of the Belgian Monetary Commission, Professor Laveleye said:

Debtors, and among them the state, have the right to pay in gold or silver, and this right cannot be taken away without disturbing the relation of debtors and creditors, to the prejudice of debtors, to the extent of perhaps one-half, certainly of one-third. To increase all debts at a blow, (*brusquement,*) is a measure so violent, so revolutionary, that I cannot believe that the government will propose it, or that the Chambers will vote it.

The contrast presented by these authorities between the effects of an increasing and decreasing volume of money shows that if a change in the one direction or the other is unavoidable, a change in the direction of increase is the most desirable. Undoubtedly the best condition upon the whole is that of steadiness, or only such an increase of money as would correspond with the advance of population. But with the history before us of thirty centuries of mining, we know that an injurious and excessive increase of metallic money has never occurred. We may feel assured that it never can occur, because the enlargement of commercial exchanges, which results from an increase of money, speedily restores the equilibrium. The danger of an unduly increasing money is theoretical and fanciful. The mischief which practically threatens the world, and which has been the most prolific cause of the social, political, and industrial ills which have afflicted it, is that of a decreasing and deficient money. It is from such a deficiency that mankind are now suffering, and it is the actual and present evil with which we have to deal.

A single standard ruinous to debtors.—Magnitude of public and private debts.

All debts must at last be paid through exaction from labor, and the

real pressure of debts is measured by the prices of the commodities which debtors must sell in order to make payment. It is thus that the volume of the precious metals determines the real pressure of debts by determining the prices of commodities. There is a partial exception to this in the case of the domestic debts of countries in which inconvertible paper is made money by force of law. But such paper will liquidate neither the individual nor corporate debts of such countries which are payable abroad, nor, with rare and unimportant exceptions, will it liquidate their national debts. It is sometimes said that these debts are, in fact, discharged, not in gold and silver, but in exported products; but this in no degree affects the case, as they must be discharged in products at prices determined by the volume of gold and silver.

If the proportions of silver and gold in the money of the world be assumed to be equal, the total discarding of either metal would diminish the amount of money one-half and double the pressure of debts. It would do more than that while the process of diminution was going on, and for some time afterward. The proportions of such a calamity as that cannot be exaggerated.

The Westminster Review for January, 1876, estimated that the national debts of the world then aggregated £4,598,000,000, or $22,204,000,000.

Our national debt is about $2,000,000,000.

Some other public and corporate debts have been computed by careful authorities as follows:

States	$390,000,000
Cities, towns, and counties	850,000,000
Railroads	2,459,000,000
Canals	105,000,000
Total	3,804,000,000

The figures for railroad debts are taken from Poor's Manual, 1876–'77. Of debts of manufacturing, mining, and other companies, no estimates have ever been attempted.

Of another form of permanent debt in this country, that of mortgages upon real estate, it can only be said that it is exceedingly great.

The permanent investments of the national, State, and savings banks, insurance companies, and trust companies of New York City amounted at the commencement of the present year to about $500,000,000. These investments include $205,000,000 in real-estate mortgages. According to the most recent returns from savings banks which are accessible, those in the six New England States, having $438,000,000 in deposits, had invested $228,000,000, or rather more than one-half, in real-estate mortgages; those in the State of New York, having $316,677,000 in deposits, had invested $116,154,000 in the same way; and of those in New Jersey, 45 per cent. of the deposits are so invested.

It may be fairly inferred from these statements that the aggregate value of real-estate mortgages held by moneyed institutions is very large. The value of those held by individuals must be still larger. The loans and discounts of the national banks October 2, 1876, were $927,000,000. In November, 1875, the capital of State and private banks was $209,000,000, not reckoning a large surplus, and $487,000,000 of deposits, and the savings banks had $884,000,000 of deposits. Nearly the whole of this vast aggregate must have been employed in loans of some kind. A considerable proportion of the farms in the West, especially in the newer States, are known to be mortgaged. Of the 630,099 traders and manufacturers on the books of the mercantile agency of Dunn, Barlow & Co., in 1876, 9,022 failed, with average liabilities of $21,020. If that

is assumed to be the average liability of the whole 630,099, the aggregate liability would be $13,244,000,000. Those who think that the failures should be ascribed, not to a relative deficiency of assets, but to an excess of debts above the average, will reduce this estimate. But it is also to be taken into the account that the books of this agency do not contain the names of all the persons described as traders and manufacturers, nor of a vast number not described as such that are large operators and debtors.

There are other forms of debt in this country, which consist of the rents reserved on long leases of either land and buildings, or land alone to be built upon by the lessees. The amount of this kind of indebtedness in the larger cities is enormous, and the effect upon it of a shrinking money is especially ruinous. The prostration of business, which destroys or greatly reduces the value of buildings hired for commercial or manufacturing purposes, does not affect the right of the landlord to exact in full the stipulated rent. The source from which it was expected to be paid may be dried up, but the liability to pay it remains undiminished. Indebtedness under long leases figures largely in the lists of debts scheduled in bankrupt courts, and largely also among the losses of those who have so far managed to keep out of such courts.

Poor's Manual states the share-capital of the railroads at $2,198,000,000, and their debts at $2,459,000,000, being a proportion of share-capital to debt of eighty-nine to one hundred. This shows a considerable excess of debt over capital stock. The financial condition of the railroads illustrates the condition of a large proportion of the corporate and individual property in the United States. The country is new and unsurpassed in natural resources, the population venturesome, ingenious, and industrious, and enterprises of all kinds, from the greatest to the smallest, are undertaken by corporations and individuals on small capital. It is considered prudent for companies or individuals to undertake operations with only means enough of their own to constitute a security for loans wherewith to complete them. This view of what is prudent may or may not be well taken, but it is natural to a young and progressive people. It has made the American economical system one vast net-work of debts and credits, and of long debts and long credits. Merchants and traders, whose bills receivable balance their bills payable, may easily make the mistake that an increase in the value of money is of little consequence, and that what is lost on one hand will be gained on the other. But this is a delusion, as they will find that, while they lose by the bankruptcy of debtors, caused by a diminishing and appreciating money, they will be obliged to pay in full the debts which they themselves owe. But these short commercial debts, where bills payable and bills receivable balance each other, do not represent in amount or character the most burdensome forms of the indebtedness of the country. Our cities are largely built up on long loans, and this is equally true of the rural regions. Men often commence to farm with little else than their hands and their courage, generally with only some inadequate accumulation for a first crop. They buy their lands principally on credit, and get the means for improvement on credit. Debt and credit run through all the ramifications of permanent investment in the United States. Even church edifices do not escape mortgages. Two years ago the Stockholder, one of the financial journals of New York, stated it to be the opinion of well-informed persons that of the lots on Manhattan Island, computed at 156,000, improved and unimproved, three-fourths were mortgaged. This may be too high an estimate, and it may be the case that property is

mortgaged to a greater extent in New York City than in other portions of the country. But there can be no doubt that on the lowest estimates the mortgage-debts of the country aggregate a vast and startling amount.

The question of preserving steadiness in the value of money, and consequently in the prices of property, and especially of guarding against a change in the direction of contracting the volume and appreciating the value of money, is, therefore, the transcendently important one in the discussion of the policy of demonetizing silver.

It is a mistake, although a very common one, to suppose that the Paris conference of 1867 recommended the demonetization of silver and the adoption of an exclusive gold standard. What it did recommend was such a unification of the gold coins of the leading commercial nations as would render them convenient for international use. The practical measure proposed was that the British pound sterling should be reduced to twenty-five francs and the American eagle to fifty francs. The demonetization of silver formed no part of the policy proposed. The only recommendation on that point was, that nations having the double standard should agree to establish such a legal relation of value between the two metals as would not practically exclude the circulation of gold. This recommendation was embodied in the following resolution:

> The advantage of international use which will be acquired by coins of the metal selected as a common standard will not of itself be a sufficient guarantee for the maintenance of their circulation in each nation, but it will also be necessary to be further stipulated, by nations now having the single standard of silver and by the nations which have the double standard, that the relation of the value of the two metals shall not be so fixed as to prevent the circulation of gold.

After a long discussion, this resolution was adopted unanimously. The representatives of two nations (Prussia and the United States) declined to vote, and the latter (Mr. Ruggles) for the express reason that it recognized the continuance of the double standard, to which he was opposed.

It will thus be seen that the action of Germany in 1871 was in no respect conformable to the recommendations of the Paris conference. Germany, in demonetizing silver, did what that conference did not recommend, and in refusing to adapt its coinage to international use, did not do what that conference did recommend.

It is, therefore, not the Paris conference of 1867, but the legislation of Germany of 1873, which compels a review of the grounds upon which gold and silver have always and almost universally been regarded as equally money-metals, and a consideration of the policy and the consequences of abandoning the monetary use of one of them. No question more vitally affecting the interests and happiness of the human race has ever claimed discussion and decision. It is no such question as was supposed to exist twenty years ago, when the anticipations of the Californian and Australian yield were so exaggerated beyond the actual event as to create a belief, more or less extensive, that the stability of the standard of values required the demonetization of one of the metals. The yield of the two metals since 1848 has not, upon the whole, raised the prices of commodities much, if at all, and this yield, instead of increasing, has been for several years rather decreasing. The danger which menaces is, therefore, not a plethora, but a scarcity of money, even if both metals are retained as such. But with the demonetization of one of them we should witness a contraction and scarcity of money and fall in prices which, in magnitude and suddenness combined, has no precedent in the history of the world, and in respect to the consequences of which we have no adequate experience to guide us. The money-stocks of the world were

diminished after the overthrow of Roman civilization, but only by the slow process of current supplies falling below current consumption and loss. But the general demonetization of either metal, if carried into immediate effect, would destroy at one blow one-half the money of the world.

The demonetization of silver in a single country, or even in several countries, so long as silver retains a substantial position in the monetary circulation of the world, would produce effects short, of course, of those which would follow its universal demonetization. But to act upon the assumption that silver could maintain such a position, if the United States should finally discard it, would be taking reckless chances in a matter too momentous to be subjected to any avoidable risk.

A single standard eventually ruinous to creditors.

It is obvious that a violent contraction in the volume of money would prove disastrous to all classes of debtors, including nations. This would be its first effect, its more immediate result. But that it would eventuate in great injury and loss to the creditor classes, is not less certain. The cases are isolated and exceptional in which creditors are secured by pledges so ample as to be absolutely insured against loss even when the depreciation of prices is moderate. Their losses would become enormous in such a depreciation of prices as would result from contracting metallic money one-half. In the general wreck which would follow such a contraction, debtors and creditors would be engulfed in one common ruin.

As to many debts, specific pledges do not exist, as in the conspicuous case of national debts, swollen already to such incredible proportions and still increasing. The English, who, from their pre-eminence in accumulated capital, own so large a proportion of these debts, do not conceal their anxieties in respect of this danger.

The Westminster Review (January, 1876) holds that no rise in the prices of commodities has resulted from the increase of gold since 1848, and that the tendency in that direction has been at least neutralized by "the increase of general population and wealth, *the demonetization of silver, and the establishment of gold currencies in its stead in several states.*" And upon the effect of further movements in the direction of demonetizing silver, it says:

> One of the things involved we hold to be the probable appreciation of gold; in other words, an increase of its purchasing power; and that, consequently, unless fresh discoveries are made, prices have seen their highest for many a long day, and that debts contracted in gold will, by reason of this movement, tend to press more heavily on the borrowers, and *that it will be well if this pressure do not become so intolerable as to suggest, by way of solution, something like universal repudiation.*

In letters published within a few months, the president of the Liverpool (England) Chamber of Commerce says of silver demonetization:

> It will practically beggar all nations that have borrowed in silver and have to pay in gold.
>
> No doubt, if such a state of things were to happen, some countries would have to pass into liquidation and make a composition with their creditors, and ultimately matters would settle down everywhere, after excessive suffering and confusion, into a universal system of gold payments; but the necessary result would be that the metallic basis on which the business of the world was done would be immensely reduced. It would be as if the mines were shut up for several years. Instead of, say, 1,400 millions [sterling] of gold and silver to do the business of exchange, there would be 700 or 800 millions [sterling] of gold, and a limited amount of silver as small change. Money values would fall greatly; national debts, like our own, would press much more heavily, and a period of suffering and contraction of business would ensue, similar to what the United States has experienced on coming painfully back from inflated paper toward specie payments. No doubt at last the process would be accomplished, and

after a century or so the world could trade as well on gold alone as gold and silver combined. But why have the intermediate chaos if it can be avoided?

It was this same view which induced the London Economist, the special organ of British financial opinion, to advise (September 2, 1876) this country to adopt either the double standard or a single standard of silver. It then said:

The United States might take the single gold standard like ourselves, and this is what, till very lately, every English economist would have advised them to do. *The evils of this plan had not then been seen.*

And, after pointing out that in the event of the adoption of a gold standard by France and the United States, "*the money-markets of the world would be straitened,*" the Economist continued:

At the present moment America would become a silver country, and the interest and principal of her obligations would be paid in silver. The evil, of course, would not be what the momentary circumstances of the market would now suggest. Silver would not be at 52 pence per ounce if America was a country with a sole silver currency.. So large a demand as her coin requirements would send up the price very rapidly—perhaps to its old amount.

It is quite apparent that the wiser creditor nations are beginning to see that they would inevitably lose more than they could possibly gain by such a contraction in the volume and consequent appreciation in the value of money as would drive their debtors to bankruptcy and ruin. They will see it more clearly hereafter, if the demonetization of silver is persisted in. This country, with its vast extent of unoccupied fertile territory, its almost boundless resources, its ingenious, enterprising, industrious, and increasing population, its comparative immunity from the danger of foreign wars, its free institutions, and its stable government, would perhaps be able to sustain any burden thrown upon it by an unwise and unjust policy. But it must be remembered that these favorable conditions do not exist everywhere, and that less favored debtor nations would sink under a load which this country might be strong enough to carry.

IV.

UNDER THE ACTUAL CIRCUMSTANCES OF THE MOVEMENTS IN OTHER COUNTRIES, IN THE DIRECTION OF DEMONETIZING SILVER, IS IT PRACTICABLE FOR THE UNITED STATES TO MAINTAIN THE DOUBLE STANDARD?

It is said that the policies of other countries which we cannot control are giving to silver a tendency to such a degree of depreciation and fluctuation as would unfit it for monetary use, and that it is not in our power to resist this tendency by remonetizing silver ourselves.

The following is a statement of different nations, not including the United States, with their estimated populations, classified according to their metallic standards:

SILVER-STANDARD COUNTRIES.

	Population.
Russia	76,000,000
Austria	36,000,000
Egypt	4,500,000
Mexico	8,000,000
Central America	2,600,000
Ecuador	1,300,000
Peru	3,400,000
China	400,000,000
British India	237,144,456
	768,944,456

As Russia and Austria both have legal-tender paper money, their population will be *non-effective* in relation to the matter in hand, until

they resume specie payments, or commence to hoard specie with a view to such payments. With that deduction, the population actually using the silver standard is 656,944,456.

DOUBLE-STANDARD COUNTRIES.

	Population.
Greece	1,400,000
Roumania	4,000,000
Colombia	2,900,000
Venezuela	1,600,000
Chili	1,900,000
Uruguay	400,000
Paraguay	1,200,000
Japan	33,000,000
Holland	3,700,000
France	36,200,000
Belgium	5,100,000
Switzerland	2 700,000
Italy	26,800,000
Spain	16,400,000
	137,300,000

As Italy has not only a legal-tender paper money, but substantially no metallic money in circulation, its population may be set down as *non-effective*, thus reducing the population of this group to 110,500,000. In Holland, France, Belgium, Switzerland, and Spain, containing a population of 64,100,000, the coinage of silver is either limited or entirely suspended.

GOLD-STANDARD COUNTRIES.

	Population.
Great Britain	32,000,000
Canada, Cape of Good Hope, and Australian colonies	7,000,000
Germany	42,000,000
Norway	1,700,000
Sweden	4,300,000
Denmark	1,800,000
Portugal	4,000,000
	92,800,000

This classification excludes Brazil, the Argentine Republic, Turkey, Persia, the great bulk of Africa, and some minor countries and colonial possessions in Asia.

Brazil and the Argentine Republic have the gold standard nominally, but the actual currency is legal-tender paper. Turkey and Persia have the gold standard nominally, but not in fact, the actual currency being gold and silver coins. Within a few months Turkey has commenced the issue of legal-tender government paper.

Africa has a considerable population, but, outside of Egypt and Cape Colony, its relation to coinages or legal standards is trifling and unimportant. Both of the precious metals are recognized as money among the peoples inhabiting it, who have a special preference for the silver dollar, the coin which centuries of use have made most familiar to them.

In the non-enumerated countries of Asia silver is the metal in general use, and some of them, as Siam, Burmah, and the Dutch colony of Java, have populations which are considerable, although small in comparison with the population of India and China.

In Spain a royal decree was issued in the summer of 1876, interdicting the coinage of silver except on government account. This decree also declared it to be the intention of the government to limit the legal-tender function of silver to 150 *pesetas*, or about $28, after it had obtained and coined a sufficient amount of gold to make it practicable to do so.

The *peseta* and franc are equivalents in value. The reason assigned for this intention was the depreciation of silver relatively to gold. The price of silver in London was at about its lowest point when this decree was issued. What influence the subsequent advance in its price in that market may have on the policy of Spain is uncertain.

In Holland silver was the sole standard until 1816. In that year the double standard was adopted with the legal relation between the metals of 15.873 to 1, which undervalued silver and practically banished it from the circulation. In 1847 silver was again adopted as the sole standard, not in consequence of the discovery of gold in California, but just before that event. The principal reason assigned by the statesmen of Holland for this change in 1847 was, that it had proved disastrous to the commercial and industrial interests of Holland to have a money system identical with that of England, whose financial revulsions, after its adoption of the gold standard, had been more frequent and more severe than in any other country, and whose injurious effects were felt in Holland scarcely less than in England. They maintained that the adoption of the silver standard would prevent England from disturbing the internal trade of Holland by draining off its money during such revulsions, and would secure immunity from evils which did not originate in and for which Holland was not responsible. In 1875 a law was passed interdicting the coinage of silver except on government account, and providing for an unrestricted gold coinage with unlimited legal-tender functions at a legal relation between the metals of 15.604 to 1.

This law was avowedly provisional, and was to expire January 1, 1877, unless re-enacted. The executive department of that country decidedly favor the gold standard, and have proposed two laws for its establishment, both of which have failed to receive the sanction of the legislative chambers. The law first proposed restricted the coinage of silver at the Java mint as well as at the home mint, and deprived silver coin in Holland, but not in Java, of the legal-tender function, except for small payments. The law last proposed prohibited absolutely the further coinage of silver. It did not demonetize coins already minted, but authorized the finance minister, at his discretion, to purchase and withdraw them from the circulation. The American minister to the Hague, November 27, 1876, referring to this law, says:

> With regard to the Dutch East Indian colonies the rule will be substantially the same, leaving it to the minister of finance to make proper arrangements with the colonial minister.

This law was agreed to in November last by the lower chamber, but was defeated in December in the upper chamber by a decisive vote; and thereupon, on the 23d of December, the ministry proposed a new law, substantially keeping in force the law of 1875, which was passed. The ultimate policy of Holland remains to be determined.

France, Belgium, Italy, Switzerland, and Greece constitute what is called the Latin Union, and are bound by treaty until 1880 to receive each other's gold and silver coins at their respective treasuries at a relation of value between the metals of 15½ to 1. By an agreement made in January, 1874, and which still continues with modifications, France, Italy, Belgium, and Switzerland limited their silver coinage (exclusive of subsidiary coins) to the following sums for the years named, stated in francs:

1874	140,000,000
1875	150,000,000
1876	108,000,000

These were the maximum amounts of the silver coinage permitted by

the agreement for the years named respectively, but either country might decline to coin the quota assigned to it, and in fact Switzerland did so decline in 1875. In August, 1876, the President of France suspended entirely the coinage of silver, except for subsidiary purposes. This was in pursuance of a law passed August 5, 1876, authorizing him at his discretion to keep the mints of France closed against the coinage of silver until January, 1878. In December, 1876, Belgium, following the example of France, also suspended the coinage of silver.

These restrictive agreements and acts in respect to the silver coinage constitute what is known in current discussions as the "expectant attitude" of the Latin Union. They amount, on the one hand, to a refusal to join Germany in a gold standard, and, on the other hand, to a prevention of such an increase of their silver coins as would augment the difficulty and loss of going to a gold standard, if they should hereafter decide upon such a policy. They will be characterized as wisely cautious, or irresolute and weak, according to the varying opinions of observers. In fact, they may be neither; but rather the only compromise which was possible of nearly equally-divided counsels.

Only a small amount of silver now remaining in Europe.

It is objected by many that the remonetization of silver in the United States would induce a further and more general demonetization of that metal in Europe, and would make this country a reservoir into which would flow a swollen stream of cheap and cheapening silver. As it is not alleged that we are exposed to a dangerous inflow of silver from any other quarter, it may be useful to inquire what quantity in coin and bars there really is in the different countries of Europe at this time, and how much of that quantity is available for sale after their demands for consumption in the arts, and to keep their stocks of subsidiary coins good against abrasion and loss, have been supplied, and how much they will need annually in the future for these last purposes.

Italy, Austria, and Russia, having an actual currency of legal-tender paper, may be left out of this account. They have no silver to dispose of.

In respect to Italy, it is stated in the report (1876) of the British silver commission:

> Italy has been gradually denuded of her silver currency. Since 1865 large amounts have been exported; her forced paper currency has apparently expelled the whole of the metallic currency, of which the silver coins amounted at the beginning of 1866 to about £17,000,000.

In the tabulation in the same report of the quantities of silver thrown on the market during the four years from 1872 to 1875, both inclusive, Italy is put down as furnishing eight millions sterling, or as much as was furnished during the same time by Germany and the Scandinavian states combined. An Italian finance minister has estimated the Italian export of both the metals since 1866 at $200,000,000.

The facts given in the report made December 20, 1876, by Mr. Compton, of the British embassy at Rome, seem to justify his statement that "*since* 1866, *when paper money was introduced in the place of coin, nearly* £30,000,000 *worth of silver has been exported.*" This is nearly twice the estimate of the British silver commission. If it is true that $200,000,000 of both the metals have been exported since 1866, the estimate of Mr. Compton is more probably correct, as the proportion of silver to gold was always very large in the Italian circulation so long as it was metallic or convertible. Of the coins issued prior to 1862, those withdrawn

have been in the proportion of $92,635,000 of silver to $5,415,000 of gold. In the new coinage since 1862, and down to 1876, the silver was £17,505,481 and the gold £9,446,688. In the public treasury and in all the banks in October last Mr. Compton states the entire metallic money at only £7,000,000, divided about equally between gold and silver. It is fully shown by all these statements that within eleven years Italy has thrown an immense amount of silver, undoubtedly approximating $150,000,000, on the markets, and that it can do nothing further in that direction.

The portentous political aspects in Europe do not justify the expectation of an early resumption of coin payments by either Russia or Austria. The paper rouble of Russia, which dates with the Empress Catherine, has had the varying fortunes of the wars and political events of a century alternately appreciating and depreciating, occasionally subjected to the process of scaling or partial repudiation, and during one brief period, from 1839 to 1857, redeemed in coin. If the great struggle threatened with Turkey takes place, monetary reforms will yield, as always, to more urgent national necessities. Of Austria, it is said that an annual treasury deficit has been chronic since 1789, and the actual needs of military preparation and observation justify no present hope of an improved condition.

Great Britain may be left out of this account, having demonetized silver two generations ago.

Germany must be included in the account, as the demonetization of silver there is not yet an accomplished fact. The estimates of the silver still to be called in and sold by that country are widely variant.

The known facts in the case are: the total amount of silver coins which had been struck down to the date when demonetization was determined upon, the amount taken in by the Government to February 28, 1877, the amount sold by the Government to September 30, 1876, and the amount used to February 28, 1877, in the manufacture of the new subsidiary coinage. What is unknown, and in respect to which there is an extreme variance of opinion, is the proportion of the coins heretofore struck which has been lost, melted or exported. The figures are:

Total amount of the old silver coinage	$431,650,000
Withdrawn to February 28, 1877	182,561,217
Used in subsidiary coinage to February 28, 1877	97,150,635
Actually sold to September 30, 1876	39,847,600
Converted into bars for sale, but not sold, September 30, 1876	9,855,200

If the sum of ten marks, equaling about two and a half dollars per head, which is the provisional per-capita limit of the subsidiary coinage, be made permanent, there will be needed, to carry the coinage up to that limit, about $8,000,000. If the limit be increased to fifteen marks, about $60,000,000 instead of $8,000,000 will be required.

The exports of silver from Germany to England were much greater in the latter than in the earlier part of 1876. During January and February of this year they were £1,317,880, or $6,391,718. During the same months of last year they were only £196,738, or $954,180. Upon the whole, it may be concluded that nearly the entire difference, which is $85,410,582, between the amount withdrawn and the amount used in subsidiary coinage to the end of February, 1877, has been sold.

Of the old silver coinage, $50,000,000 were in florins or gulden currency, all issued since 1837. The remainder consisted of the thaler coinages, some of them dating back to 1750. The gulden currency has been demonetized, and only 68 per cent. of it was presented within the time limited for redemption. It is argued that the proportion of loss must be

much greater in the thaler coinages which have been subjected so much longer to the various causes of loss. The probable proportion of the loss of those coinages is fixed by some authorities as high as three-fifths, but against this view it is urged that the gulden currency was better adapted to export and better adapted to melting down, because containing more gold. The controversy will be settled when the coinage is all called in, and not before. The British silver commission, after groping about as best they could where so much was uncertain and obscure, concluded that the German government might, at the date of their report, July 5, 1876, still have had from $40,000,000 to $100,000,000 of silver to sell. The later evidence seems to point rather towards the higher than the lower estimate. The computation of the British commission included only the sales of $30,000,000 then reported and known. The sales to this time amount probably to $85,000,000, but the excess of such sales above $30,000,000 is certainly more than $40,000,000, the minimum estimate of the amount remaining at the date of the British report. Since November last, all the old silver coins have been demonetized, except the thaler piece and the sixth of a thaler piece, but the current reports are that the amount of the outstanding thaler pieces is still considerable.

The result will be largely affected by the conclusion finally reached as to the amount required for subsidiary coinage. The executive government has proposed to enlarge it one-half, or to fifteen marks per capita, but the proposition lies over for the present, some legislative opposition having manifested itself. If carried, the enlargement will require about $52,000,000 in silver.

The London Economist of February 3, 1877, states that the German coinage programme for the present year is to complete the subsidiary coinage up to the present legal limit, which will call for $8,000,000 in silver, and to coin 40,000 pounds in weight of gold (about $12,125,000) for the account of the government. The mints are always open, of course, for such gold coinage as individuals may require. If this is really the present programme of the German authorities, it implies either that they are not inclined to press the withdrawal of silver to an immediate conclusion, or that the quantity still to be withdrawn is not large.

In the appendix (page 1) to the report of the British commission is a careful estimate, which puts the amount of subsidiary silver in Great Britain, December 1, 1872, at £19,536,000. Taking the population of Great Britain at thirty-two millions, and the English shilling as the equivalent of the German mark, it would be about twelve marks per capita of the population.

The British commission say:

> It seems certain that more subsidiary coinage will be used in Germany than in England, owing to the smaller use of checks, and to the habit of daily payment for all family expenses, in the place of the English system of weekly or monthly bills.

It seems probable, therefore, that the increase of the German subsidiary coinage to fifteen marks per capita will finally be carried, and that even a greater increase may be found necessary.

The subsidiary coinage of France is limited to six francs, or about four and a half marks, per capita of the population. A much greater amount per capita would doubtless be required were it not for the fact that the necessity for it is lessened by the existence of the full-tender silver five-franc pieces, just as it is lessened in this country by the one and two dollar legal-tender and bank notes. But if the full-tender five-franc pieces were called in, as they would be should silver be demonetized,

France would require at least as much subsidiary coin, per capita of the population, as Germany.

In the event of a remonetization of silver in the United States, and of its general demonetization in Europe, this country could not be flooded with silver from Italy, Austria, or Russia, which have none to dispose of, nor from Great Britain, which has none except what is fixed in subsidiary coins, nor from Germany beyond the small amount not yet withdrawn from its circulation. It is France which has nearly all the silver which is left in Europe, liable to be thrown on the markets of the world. The amount of this French stock, disposable in the event of demonetization, is as variously estimated as the amount of the German stock. The total number of five-franc pieces coined, from the commencement of the coinage in 1795 to its suspension in 1876, was 1,008,159,949, amounting in value to $947,500,000. The five-franc piece is the only full-tender silver coin in circulation in France. The silver coins under that denomination are below the French standard of fineness, and are tenders for only small sums. The British silver commission print a paper, stated by the chairman to have been furnished by "a high authority in France," whose name, however, is not given, in which the amount of full legal-tender silver in France is estimated at 2,200,000,000 francs, or $413,500,000. The bases of this estimate are, that in 1868 the authorities generally concurred in estimating it at 1,500,000,000 francs, to which had been added 500,000,000 by subsequent coinage at the French mint, and 200,000,000 by the importation of the five-franc pieces of the other states of the Latin union. Between 1857 and 1868 there was no silver coined at the French mints, except debased pieces for subsidiary purposes.

M. Cernuschi gives it as the general judgment of French authorities that the total metallic money of France, gold and silver, is $1,000,000,000. The proportion of gold to silver in the reserves of the Bank of France is as five to two, but may be less outside of that institution.

Paul Leroy Beaulieu (*Journal des Débats*, March 3, 1876) estimates the whole quantity of silver remaining at only 1,200,000,000 francs, one-half of which is in the Bank of France. Victor Bonnet makes estimates equally low. Ernest Seyd combats these estimates as being too low, and as being made by advocates of the gold standard for the purpose of underrating the difficulties of demonetizing silver, but he does not himself reckon the quantity at above £70,000,000 sterling, or $350,000,000.

The proportion of silver in the total amount of specie paid to and deposited in the Bank of France is diminishing. This fact is considered by French authorities as indicating that there is no plethora or excess of silver in the circulation.

Upon the whole, we may take $413,500,000 as a maximum estimate of the full-tender silver in France. It is probably less. Whatever the amount may be, 400,000,000 francs, or $75,000,000, would be absorbed in the event of the demonetization of silver in such an addition to the subsidiary coinage as would carry it up to twenty francs per capita, or about the equivalent of fifteen marks per capita in Germany.

In respect to the Scandinavian states, our minister to Denmark (letter of November 8, 1876, to Secretary Fish) says the demonetization of silver was completed October 1, 1876, and that the old silver coins had then entirely disappeared. The same thing is doubtless true of Norway and Sweden, as those countries conducted their movement toward a gold standard in concert with Denmark, and pursuant to treaty arrangements. In respect of Denmark, full accounts have been published of

the silver withdrawn, of the amount sold, and of the amount reminted in subsidiary coins. These accounts are as follows:

Withdrawn	$11,397,500
Sold	6,882,150
Reminted	4,515,350

The annual consumption of silver in Europe would not be much diminished by its universal demonetization there. Its consumption in plate and in the arts would not be affected at all. Its consumption by the loss and abrasion of coins would be nearly if not quite as great as ever. Silver would still be the material of the coins used in retail transactions and by the masses of the people, and it is in coins so used that loss and abrasion chiefly occur. There would be less silver in the reserves of banks and public treasuries, but in such reserves loss and abrasion of coins do not occur.

The returns of British imports and exports of silver for eight years ending with 1875, show an average annual excess of imports of £1,147,500, or $5,837,500. The British commission set down £400,000 to account of waste and loss of coins, £350,000 to the account of plate, and £250,000 to the account of consumption in the arts. The consumption per capita on the continent of Europe would be less in the arts, but probably more in plate, than in Great Britain. The British commission say that the use of plate is mainly confined to the "higher classes" in England, whereas in France and Germany the "lower classes" and "peasantry" indulge in it in minor forms.

The Paris correspondent of the London Economist (December 16, 1876) says of the consumption of silver in that city, that "the demands are solely for manufacturing purposes, for which a value of a million of francs ($200,000) is required weekly." Paris, undoubtedly, manufactures for other consumers than the French, but the annual consumption of silver of the value of $10,000,000 for manufacturing purposes in that single city is, in any aspect, a noteworthy fact. The consumption in the coinage on the continent of Europe through abrasion and loss would be immense if it were not for the expulsion of the metals by paper in several large countries, but, even under existing circumstances, must be several times larger than it is in Great Britain.

The substitution of gold for silver in Europe has been in progress ever since the discovery of gold in California, and consequently the amount of silver remaining even in the specie-paying countries of Europe cannot be formidable. The only thing which could occur hereafter to disturb materially the relation of the two metals would be the resumption of specie payments by Italy, Austria, and Russia. How the relation would be affected depends upon the metallic standards which those nations might select hereafter. If they should resume upon their present metallic standards, resumption in Italy, which is a double-standard country, would simply tend to restore the old relation of 15½ to 1, while resumption in Russia and Austria, which are silver-standard countries, would not only carry silver up to an equivalency of 15½ to 1, but might carry it still higher. If all these countries should resume or seriously attempt to resume specie payments, and on a gold standard, it would enormously increase the demand for and relative value of gold; but such a resumption in those countries is impossible, and any attempt in that direction improbable. Their resumption on any metallic standard, within any near period, is wholly improbable.

If silver were remonetized in the United States, the amount which would be absorbed here, in the event of the resumption of specie payments, would exceed any visible supply which Europe has to dispose of,

and would restore the relative value of silver to what it was before the recent movement of Germany. And in all contingencies, the permanent value of silver rests securely upon the magnitude of the silver stock, upon its diffusion over so large a part of the globe, and upon the silver-absorbing power of the world, and especially of Asia, whose vast populations, whatever may be done with silver elsewhere, must continue to use it as their money for an indefinite period. The exchangeable values of gold and silver, respectively, whether as commodities or money, depend upon the demand and the supply, and the demand depends upon the numbers and wealth of those who make the demand, and not upon their intelligence, civilization, or refinement.

Magnitude of the Asiatic demand for silver.

It will certainly meet all the requirements of the discussion to consider the question of remonetizing silver in the United States upon the assumption that silver will continue to be used as money in most of the regions of the world where it is now so used, and especially in Asia. This is the assumption, in fact, of European advocates of the gold standard, and they insist upon it as the adequate answer to those who point out the disaster and ruin that would follow a universal demonetization of silver.

Humboldt estimates that at the beginning of this century the production of the precious metals in America, principally silver, was $43,000,000, $25,000,000 of which went to Asia in the course of trade, and never to return.

Asia has been known in all historical times as the sink of silver.

In the twenty-six years from 1851 to 1876, both inclusive, the specie exports to Egypt and the East were—

	Silver.	Gold.
From Great Britain	$741,886,000	$135,483,885
From French ports	294,671,450	181,579,150
Total	1,036,557,450	316,963,035

This is an annual average of $39,867,594 of silver and $12,190,886 of gold. (See Quetteville's circular.)

British India alone, in the forty years ending with 1875, had an excess of silver imports over exports of £198,464,000, or nearly $1,000,000,000, and during the same period an excess of gold imports of $500,000,000.

In the same forty years, the silver coinage of India was £210,660,975.

Of this amount there were £21,000,000 of old coins re-minted, which being deducted from the total of the coinage would leave £189,060,975, or nearly $900,000,000 as the addition made in those years to the previously existing money-stock of India.

The testimony is clear that the India demand for silver generally, and for silver coins in particular, is as unsatisfied and exigent as ever. If India was oversupplied with silver, the prices of commodities would be abnormally high, whereas the reverse is the fact. The effectiveness and urgency of the demand in any country for money are measured by the general scale of prices at which its commodities are offered to the world. Tried by this test, the India demand for silver, which is the money of India, was never greater. The governor and council of India, in a minute, published last summer, of their reasons for keeping the mints open to silver, say:

First, gold has risen in value since March, 1873, and especially since last December. Second, it is not shown that silver has fallen in value, *i. e.* as compared with commodities in general, either in London or in India, during the same period.

The London Economist (October 28, 1876) says of this paper:

As a whole, both in its conclusions and reasonings, the "minute" is most admirable.

The council of India kept well on the safe side in saying that silver had not fallen in value in India since 1873, or, in other words, that the prices of India products had not risen. Most of the authorities concur that silver has risen in India rather than fallen since that time. A New York writer, J. S. Moore, who has special facilities for information on this subject, says (New York Evening Post, October 24, 1876) that "Indian products are, at present, at their lowest ebb, as compared during fifteen years." At the annual meeting in September last of the shareholders of the Oriental Bank of London, which has extensive and intimate connections with the India trade, the president said that, with few exceptions, India produce was so low that even the general war supposed to be menacing Europe could not make things worse. To the same effect was the testimony last summer before the British commission, and it is not weakened by the fact, which the commission say is borne out by the testimony, that the imports as well as the exports of India are on a low range of prices. Both facts prove the same thing, that silver is not in excess, but scarce and deficient, in India.

The demand in India for coined money, on any scale, is of very modern origin, not antedating the present century, and has become important even more recently than that. The old native practice was to pay land-rents in the products of the land, and nearly all transactions even fifty years ago were by barter. W. Nassau Lee, one of the best informed and most intelligent writers on Indian topics, in a work entitled "Drain of Silver to the East," dated at Calcutta in 1863, but printed in London, states that the use of coined money was still not common outside of the cities, and that the general use of it would require an additional amount of £400,000,000, $2,000,000,000. This estimate was on the basis of an assumed population of 180,000,000, (now known to be 237,000,000,) and on an amount per capita equal to what is employed in Great Britain, although in Mr. Lee's opinion India required more, because making less use of credits and representative money. Colonel Hyde, who was for fourteen years director of the Calcutta mint, testified before the British commission to the same general facts which are given in Mr. Lee's work, and gave it as his opinion that "*its* (India's) *capacity for absorbing silver remains great.*" Another witness, McKenzie, who had been a merchant, indigo-manufacturer, and railway-manager in India, testified that the circulation in many parts of that country was "*totally inadequate.*"

There have been, of course, fluctuations in the balances of India trade within the last forty years. The silver imports, from 1871 to 1875, were on a lower average than during the last forty years, and on a much lower average than during the American civil war, when India largely supplied the world with cotton. There were equal and even greater fluctuations prior to the last forty years. In one year, 1832–'33, according to Mr. Lee, "the flood of silver to India almost dried up." But notwithstanding temporary fluctuations, the great fact that India is a sink of silver is as true to-day as it has been from the earliest period of history.

That it will continue to draw silver from the rest of the world rests upon the permanent conditions that it has no silver mines, while it abounds in commodities which command the precious metals, and has a vast population, industrious and rich, whose demand for silver for use as money is constantly increasing, and whose passion for both silver and gold, for decoration, ornamentation, and personal adornment, is proverbially universal.

The following is a statement of the foreign commerce of India for the thirty-six years, from 1835 to 1871:

Exports of merchandise	£1,012,000,000
Exports of gold and silver	37,000,000
Imports of merchandise	583,000,000
Imports of gold and silver	312,000,000

The British commission discussed at length this India problem, relating as it does to the greatest of the British dependencies, and arrived at the conclusion that "as India has been a great consumer of silver in the past, so it will continue to be in the future."

In respect to China, with its teeming population, no circumstance is suggested likely to diminish its demand for silver, which is its principal money, current by weight. That empire is now proposing, for the first time in its history, to establish a mint for the coinage of silver. Such a coinage would have an immense influence in extending the monetary use of silver in that country. It would cause the same substitution of cash for barter which followed the establishment of a mint in India, and, in addition, would replace with small silver coins the cumbersome coins of base metal now employed. The American minister to China, writing from Peking, August 9, 1876, says the prospect of the establishment of a mint is "excellent."

Current facts show how groundless was the apprehension, which was so large an element in producing the late silver-panic, that the East would cease to absorb silver. The flood of that metal to the Orient has already set in again with redoubled force. The London Economist gives the following as the silver-exports from England for the years 1875 and 1876, respectively:

	1875.	1876.
To British India	£3,231,266	£8,229,124
To China	863,131	1,249,729

Rating the pound at $4.85, this was an aggregate export in 1876 to India and China of $45,975,438. In three only of the last twenty-six years has it been greater. The average of the last twenty-six years was $28,748,077. In 1876 it was, therefore, $17,000,000 in excess of this average, and the prices of India products are still abnormally depressed, which is another mode of saying that the India demand for silver is still unusually great.

But the figures thus commented upon do not give the whole case, and especially in respect to China, inasmuch as, by a recent change in the course of trade, much larger amounts than formerly are being sent to the East from San Francisco, and a good deal of it on London orders and account. The amount sent during the year 1876 was $9,119,031.

During January and February of the present year, the silver export from San Francisco to China and Japan has been $2,625,681, and the British silver export to China and India has been £2,119,025, or upward of $10,000,000. This is more than three times what it was in the corresponding months of 1876.

We have in the operations of the Vienna mint another illustration, and on a considerable scale, of the sure tendency of the East to absorb silver when it falls in its gold price at the West. It has long been the practice of that mint to strike a particular coin, the Maria Theresa thaler, for exportation to the East, and especially to Egypt, where it has been for many years a familiar and favorite species of money. The amount of

this coinage, rating two Austrian florins as equal to one dollar, has been as follows:

1869	$16,838
1870	97,737
1871	11,471
1872	166,923
1873	363,791
1874	2,609,006
1875	3,485,760
1876	5,319,792

As silver fell relatively to gold, the Austrian export of silver to the East, in the accustomed form of the Maria Theresa thaler, increased.

There is one feature of the India trade which seems to have escaped altogether the attention of the British commission, although it has a direct bearing upon the power of the East in general and of India in particular to steady the relative value of the metals. Of the $1,500,000,000 absorbed by India in the forty years ending with 1875, one-third was gold. Gold is not demanded there for use as money, but as a luxury, and when it rises in value India will export it or import it in less measure, which is the same thing in its effect upon the relative value of the two metals.

Comparing the first eleven months of 1876 with the same months of 1875, we find the excess of gold imports into England from India and China, respectively, over exports from England to those countries, to have been as follows:

	1875.	1876.
From India	£4,717	£1,126,448
From China	278,508	757,958

It is thus that the East will restore and steady the relation of the metals, not merely by taking silver, but by giving up gold, or by taking it in less quantities.

In this way India may, to some extent, obtain the silver it needs, notwithstanding that the amount it has to pay annually in London as interest on debts has become so much greater than formerly. In whatever proportion it gives up the purchase of gold, or sells the gold it has in its possession, it will find a new resource for acquiring silver. Gold will be sure to be given up as the necessity for money (silver) becomes urgent.

Proportion of gold in the world's metallic supply greatly increased since 1848.

Since the voyages of Columbus, the two forces which, acting against each other, have controlled the value of the precious metals, both in their relation to commodities and in their relation to each other, have been the supplies from the New World and the demand for them of that preponderant mass of the human race inhabiting Eastern Asia. So far as the relative value of the two metals is concerned, these opposing forces came to an equipoise about the middle of the seventeenth century, which has been substantially maintained for more than two centuries, and down to the erratic movement of the last two years.

In respect to the supplies of the precious metals since the discovery of America, that of silver, from its bulk and weight and the methods of its production, is the more easily ascertained. Statisticians have always assumed that they had tolerably accurate accounts and estimates of the silver production of Spanish America, which has furnished the greater part of the world's supply of silver since 1492. The production of gold is not so easily ascertained; but so large a proportion of what has been found within this century has come from the highly civilized communities of California and Australia, where records are kept of coinages and of exports of coined and uncoined treasure, that estimates of totals may

be fairly reliable, although embracing some productions not likely to be accurately reported.

Distinguishing the periods prior and subsequent to the California discovery, we have the following estimates:

Supplies from 1492 *to* 1848.

	Gold.	Silver.
From America	$1,998,000,000	$5,261,000,000
From elsewhere	628,000,000	441,000,000
Total	2,626,000,000	5,705,000,000

Supplies from 1849 *to* 1876, *both inclusive.*

Gold	$3,215,000,000
Silver	1,367,000,000

The estimate from 1492 to 1848 is that of Chevalier, which Soetbeer adopts.

The estimate from 1849 to 1876 is based, as to most of the years, upon the figures of Sir Hector Hay. The estimate of the London Economist is rather less. That of Soetbeer is about the same. But the differences in the commonly-accepted estimates are not important.

When we pass from the question of current supplies to the other questions of the stocks on hand, of the location of stocks as between the East and West, and of the proportions of gold and silver at various dates, we are confronted by doubts and difficulties at every point.

If the amount of gold and silver produced since 1492 were accurately ascertained and agreed on, it would still be important to the discussion to know the amount then in existence. We only know in respect to Europe that the great abundance of the precious metals at the time of the Roman Empire was succeeded by the extreme scarcity of the Middle Ages; and of the East we know comparatively nothing. The few oriental travelers prior to the discovery of America gave glowing and possibly exaggerated accounts of the great wealth of the East in gold, silver, and jewels, but they furnish no reliable data upon which to base estimates. Even if the exact amount of the precious metals existing in 1492 and the amount that has been produced since were known, the amount consumed since in the arts and by abrasion and loss would still be indeterminate, and the proportionate amounts of gold and silver respectively in the stock would remain uncertain. Even if the relative production of gold and silver in past periods were known, their relative amounts in existing stocks could not be assumed to be the same, as the proportionate amount of each lost and consumed in various ways may have been essentially different.

It is agreed that the proportion of gold in the stock of the precious metals has immensely increased since 1849.

Before that year it was ordinarily estimated that silver was in excess in the world's stock in the proportion of three to one, and in the stock of the Western World (meaning by that, Europe, America, and the civilized portions of Africa) in the proportion of two to one. All authorities agree that in the stocks of the Western World the proportions are reversed, and that gold is now in excess. In 1866 Chevalier fixed the proportion in the Western World at 44 of gold to 30 of silver. Xeller fixed it at the same time at 37 to 28. The proportion of gold has increased since then.

At any rate, there has been since 1848 a complete reversal of the old proportions of gold and silver in the supplies and a very large change of proportions in the stock of the precious metals, and, notwithstanding these facts, the relative value of the two metals remained substantially steady until within two years.

Deficiency of the silver production since 1848, *made up so far from the silver stock held in Europe in* 1848.

The relative deficiency in the production of silver since 1849 has been made up, so far, by the quantities released from the circulations of Europe and the United States, and the relative excess in the production of gold since 1849 has been absorbed into the circulations of Europe and America. If this releasing of silver from, and absorbing of gold into, the circulations of Europe and the United States could go on indefinitely, the time would never come when the Asiatic demand would raise the price of silver. But Europe and the United States can release silver only so long as they have any to release, and this process must end when the substitution of gold for the silver in their circulations is completed.

In France, the metallic circulation has always been large, and consisted almost entirely of silver when the California and Australian gold-fields were discovered. After those discoveries silver was exchanged for gold until the major part of the French circulation became gold, and is so now. From 1856 to 1867 not a single full-tender silver coin was minted in France, although its mint was open to anybody that had silver bullion. Jevons estimates that, down to 1859, $500,000,000 of the Australian and California gold had been absorbed in the French circulation, and a nearly corresponding amount of silver displaced and made disposable for the markets of the world. Mint returns would justify a higher estimate. During the seventeen years of the reign of Louis Philippe, ending with the date of the California discovery, the total French gold coinage was £8,600,000, making an annual average coinage of £500,000. From 1850 to 1858, both inclusive, the total French gold coinage was £129,587,735, making an annual average of £14,343,082. The increase in the coinage during these nine years over and above the total coinage during the preceding seventeen years was £120,987,735. The total French gold coinage from 1848 to 1871, both inclusive, was £259,801,000, or $1,261,000,000, rating the pound at $4.85.

Professor Hansen, of the Berlin University, said in 1868:

> Europe, or rather the whole civilized world, is indebted to French law for its escape from the perturbations in the relative prices of gold and silver, threatened by the enormous arrivals from Australia and California.

The exchange of silver for gold in the circulation of various countries in Europe has been steadily progressing ever since "*the enormous arrivals from California and Australia*" made gold the most available metal. There has been in addition a displacement of silver without a substitution of gold, by the suspension of specie payments in Russia, (1857,) Austria, (1868,) and Italy, (1866,) the two first being silver-standard countries, and the last being a double-standard country. The exchange of silver for gold under the operation of the double standard was easy and natural. It was injurious to no interest and did not affect the relative value of the precious metals, until the German law of 1873 demonetizing silver came into practical effect. Even that law could not have affected the relative value of the metals, if other nations in Europe had not restricted and suspended the coinage of silver. The Latin Union agreed upon a restriction in January, 1874, before the relative value of the metals was affected at all, and nobody can doubt that France alone, which had absorbed in nine years after the California discovery five or six hundred million dollars in gold, could have absorbed the one hundred millions of silver, which Germany has occupied four years in selling, without a disturbance of the relative value of the metals. But in any event, whether the displacements of silver from the European

circulation have arisen from substitution of gold, suspensions of specie payments, demonetization of silver, or closure of mints against its coinage, the process must come to an end when all the silver which can possibly be spared consistently with the requirements for a subsidiary coinage is disposed of. This end is practically reached already if France adheres to the double standard, and is not very far off if France demonetizes silver, as it has no such quantity of that metal as it had in 1849.

If the exchange of silver for gold shall still continue in Europe, it will be no new force acting on the market, but a force which has been acting without interruption since the California and Australian discoveries. It can only continue until the present very much reduced stock of European silver which is disposable shall be exhausted. It is a force which has no novel or undefinable terrors. We know its exact gauge and measure by an experience of nearly thirty years. The utmost it has been able to effect, leaving out of view the recent short period of panic in the silver-market, has been to preserve substantially undisturbed the same relative values of the metals that have existed for about two centuries.

In 1849, nearly the entire mass of the metallic money of the continent of Europe consisted of silver, the gold-standard being confined to Portugal and to the island of Great Britain. Holland and Russia were single silver-standard countries. The double standard existed legally elsewhere, but the quantity of gold in circulation was very small. If the Asiatic demand for silver had not existed, the new gold received after 1849 would have been simply an addition to the general mass of metallic money in Europe, and could not have affected the relative value of gold and silver, as both were concurrent in the circulation. But by reason of the Asiatic demand for silver, that metal was withdrawn from the European circulation, and its place supplied by gold. This withdrawal of silver diminished, of course, the aggregate volume of the two metals in Europe. The law of the double standard made the entire operation easy and automatic. As the laws invested silver and gold equally with the monetary function at a stated equivalency, it was of no consequence which metal was retained and which displaced. The absorption of gold by Europe tended to check a depreciation in its relative value from excessive production. The exportation to Asia of the surplus current supply of silver and the displaced stocks of Europe, tended to check a rise in the value of silver in Asia. No interest was injured. On the contrary, the interests of both Europe and Asia were conserved.

It is plain that within the past thirty years the Asiatic demand and the demand of the arts and the abrasion and loss of coin have absorbed not only all the current supplies of silver, but also the larger part of the stock of that metal existing in Europe in 1849. These absorbing and consuming forces still continue undiminished. There can be no reasonable doubt, the European stock now being nearly exhausted, that these forces unaided will be powerful enough in the near future to overcome the effects of the German demonetization of silver and neutralize the effects of the general closure of the mints against it, and to restore the relation of value between the metals which has existed during the greater part of this century.

There are no large stocks of silver in coin and bars anywhere outside of what is in actual and active circulation. In the great banks of the world, except in the Bank of France, there is but very little, and in that institution there is only about two-fifths as much as of gold. In this country, the whole amount outside of plate and the subsidiary coinage is estimated by the Director of the Mint not to exceed $3,000,000.

There is but little in London, and none at all in Paris, except in coins. The London Economist (December 9, 1876) says the stock there has run down, because "all dealers are fearful of keeping any amount on hand;" and the Paris correspondent of the same journal, writing two days before, says:

Bar-silver is in demand, but *there is none in Paris.* Dealers sell at equal to 56⅜ per ounce for English-standard silver, *but orders have to be executed in London.*

The fact that it has needed all the silver liberated in Europe, by demonetization and suspensions of specie payments, in addition to the annual supply, to prevent a rise in its value relatively to gold, is explained and confirmed by such approximate estimates as can be made of the annual absorption of silver in plate and in the arts and by the abrasion and loss of coin.

Estimates of consumption of silver in the arts, and by the abrasion and loss of coins.

In the eight years ending with 1875 the imports of silver into Great Britain exceeded the exports by $44,379,500, making an annual average excess of imports of $5,547,437. The British silver commission assume that this sum of $5,547,437 represents the annual silver consumption of Great Britain, but they overlook the fact that there should be added to this excess of imports over exports the amount of silver taken from its own mines, and also the much larger and very considerable amount extracted in England annually from imported argentiferous ores and lead. Sir Hector Hay, in his testimony before the British commission, estimates the value of this last amount at £1,000,000, or $5,000,000; but it is only recently, and in consequence of improved methods of extracting silver from lead, that it can have reached so large a figure. In 1865 it was estimated at less than one-fifth as much. Ernest Seyd, quoting R. Hunt's Mineral Statistics, estimates the annual production of the British silver-mines at £140,000 to £160,000, or from $700,000 to $800,000, and says that the annual aggregate of this production, together with that of the British metal-refineries, is not less than £1,000,000.

Assuming that they had only $5,547,437 to account for, the British commission set down two-fifths of it to the account of keeping up the silver coinage and three-fifths of it to the account of use in plate and the arts. If this last estimate is not too low, Jacob's estimate, made in 1831, or nearly fifty years ago, that Great Britain used in plate and the arts £820,521, or $4,000,000, must have been too high. But if the annual silver consumption of Great Britain is really no more than $5,547,437, Germany, France, and the United States, with a population three and three-fourths times greater than that of Great Britain, must, at the same rate, consume $20,802,889.

To assume the same ratio of consumption in France, Germany, and the United States as in Great Britain is far inside of the probabilities. So far as waste in the coinage is concerned, it is very much larger at the present time, because they use a very much greater quantity of silver coin. The United States use less, but France uses four times as much, and Germany uses more, and will do so until its silver demonetization is completed.

As to the future, making the suppositions most unfavorable to silver, that France abandons the double standard, that the United States do not restore it, and that Germany perseveres in its gold policy, all those countries must have as large a subsidiary silver coinage per capita as Great Britain. As to use in plate and the arts, the evidence is that

Germany and France use at least as much per capita as Great Britain. In this country, where the ability to indulge in luxuries is vastly more diffused and general, this use is unquestionably greater.

Upon the whole, if the United States do not restore the double standard, and should France abandon it, those two countries, together with Great Britain and Germany, would still consume annually in manufactures and the abrasion and loss of coin at least $30,000,000 worth of silver. At the present time they use up more than that, as France has now not only the double standard legally, but has actually in circulation a large amount of silver, approximately $300,000,000, beyond what a merely subsidiary coinage would require.

The silver used by the Paris manufacturers is estimated at 1,000,000 francs per week, or $10,000,000 per annum. A part of this manufacture is undoubtedly not consumed in France, but exported or sold to the wealthy foreigners with whom Paris is always thronged. It is not possible to explain the excess of French imports of silver over exports, except by assuming a large French manufacture of silver. This excess for the eight years ending with 1875 was $262,415,000, of which only $140,000,000 is accounted for as being either in coins or as having been sent to the mints to be coined, and $80,000,000 as consumed by the Paris manufacturers. The remainder, being $42,415,000, or $5,301,375 annually, may be accounted for as used by French manufacturers outside of Paris, or by supposing that there may be inaccuracies in the custom-house returns.

In the first eleven months of 1876, the excess of French silver imports over exports was $24,590,259, of which $9,717,080 was minted, leaving $14,873,179 unaccounted for.

Taking the estimates of the Commissioner of Mining and of the Director of the Mint, the total silver production of the United States in seventeen years, from 1860 to 1876, both inclusive, was $289,854,527.

During the same period the exports and imports of silver were as follows:

Exports.

Domestic coins	$36,693,840
Domestic bullion	189,209,927
Foreign coins	83,535,207
Foreign bullion	921,552
	310,360,526

Imports.

Coins	$99,382,668
Bullion	6,894,088
	106,276,756

This leaves a net export of $204,083,770, which being deducted from the amount produced would leave as still remaining in the country $85,770,757.

During this period the consumption of silver through the abrasion and loss of coin was trifling, as no coin of any description was in circulation except for a short time during that period, it having been expelled by legal-tender paper. The consumption, therefore, must have been in plate and in the arts, and the data for computing it are—

First. The excess, $85,770,757, of the production above the net export.

Second. The diminution in the stock of silver coins and bullion between 1860 and 1876. The stock now, outside of $30,000,000 in subsidiary coinage, is estimated by the Director of the Mint at $3,000,000. To January 1, 1860, there had been minted $41,487,207 of underweighted

silver coins, under the act of February 21, 1853, designed exclusively for domestic use. The mint value of this coinage being above its bullion value, it could not be exported profitably, and consequently all or nearly all of it continued in domestic use until specie payments were suspended in 1862. There was also, in 1860, a considerable quantity of full-tender American silver coin in use, and a still larger quantity of foreign silver coin, especially Mexican dollars and French five-franc pieces.

Third. The quantity of the foreign silver coin, not entered at the custom-houses, brought in by the 4,508,852 immigrants that arrived in this country during the seventeen years referred to.

The New York Commissioners of Emigration (December 15, 1854) say:

> German immigrants have, for the past three years, as estimated by the best German authorities, brought into the country annually about $11,000,000. The amount of money thus brought into the country is incalculable.

In 1856, these commissioners questioned all the immigrants, and found that, according to the answers, the actual cash brought into the United States by them averaged $68.08 per capita of the 142,342 arriving in that year.

Superintendent Kennedy's report (January, 1858) says:

> While the table of 1856 presents the average amount of cash means at $68.08 per head, subsequent information showed that, had full admission been made of the funds in possession, the average would have been at least double the amount reported.

It cannot be known in what proportions this cash, amounting to more than $300,000,000, brought in by immigrants in these seventeen years, consisted of bankers' drafts, gold, or silver. Gold is easier to carry, but, on the other hand, the German immigration bringing in the most money was from a country having for the greater part of the time no gold currency.

A review of all the facts of the case seems to justify a conjecture if not an opinion that the consumption of silver in the United States, in plate and in the arts, during these seventeen years, averaged annually $10,000,000.

The populations of Europe, (exclusive of France, Great Britain, and Germany,) of America, (exclusive of the United States,) of Africa, and of Australia are as follows, respectively:

Europe	192,000,000
America	46,000,000
Africa	203,000,000
Australia	4,500,000
Total	445,500,000

Throwing out of this account altogether the barbarous portion amounting to 160,500,000 of the African population, it may be assumed that the remaining 285,000,000 consume per capita two-fifths as much silver as the people of Great Britain, or $19,762,732 annually. A small group of countries, (Holland, Belgium, the English colonies, Switzerland, and the Scandinavian states,) with a population of 26,500,000, consume quite as much per capita as Great Britain. Austria, Italy, and Russia in Europe, with a population of 132,000,000, have substantially expelled silver by paper, and use very little in coinages, but their wealth and habits make them large consumers in other forms. Northern Africa uses silver largely in both forms, and so does Spain.

If the annual silver production of the world does not go above its present figure of $74,000,000, and if the annual consumption outside of Asia continues at $50,000,000, the total inadequacy of the remaining $24,000,000 to supply the Asiatic demand is apparent. It is certain that

British India alone, containing only one-fourth of the population of Asia, consumed that quantity annually on the average of the forty years ending with 1875. Schem's Statistics gives 798,000,000 as the total population of Asia. This estimate includes 182,000,000 outside of India and China. Undoubtedly, the consumption of silver in India is above the average of Asiatic consumption, but it is everywhere considerable, and in China is constantly increasing, and in probable contingencies may increase very largely. During the last year (1876) India and China took $55,000,000 from England and San Francisco.

Even if the future European demand for silver shall be less than what it was before 1849, it is never to be forgotten that the silver production, which is now less than that of gold, had been, from the discovery of America to 1849, two or three times greater, and that it was upon this anterior proportion of production that the relative value of the metals had adjusted itself, and had been substantially steady for two centuries prior to the discovery of the great gold fields of California and Australia.

Recent fluctuations in relative value of gold and silver.

As this branch of the investigation appertains especially to the probabilities of future steadiness in the value of silver, a *resumé* of the facts connected with the recent panicky changes in the relative value of gold and silver would seem to be necessary, in order to form a correct judgment as to whether there is any cause to apprehend their recurrence in the future. On the one hand it may be said that the possibility of such changes, proved by the actual fact of silver having been sold in London at 46¾ pence in gold per ounce, is sufficient to impair confidence in its future steadiness. On the other hand it may be said that the divergence in the relative value of the metals was wholly due to a rise in gold. A comparison of general prices in 1873, when the German demonetization of silver went into effect, with present prices, will show that the purchasing-power of both metals has increased, and gold more than silver to the full extent of the divergence. But even if it were due equally to a rise in the value of one metal and a fall in the other, or entirely to a fall in silver, it may be demonstrated that it cannot be other than temporary, and that the concurrence of the causes producing it can never again be possible.

The relative value of silver and gold of 15½ to 1—which is equivalent to 60⅞ pence in standard gold for an ounce of standard silver—had not varied in the London market very materially, or for any great length of time, during this century, until 1875.

The average quotation during 1875 sunk as low as 58⅞ pence.

During 1876 the range of fluctuation in the London market in each month was as follows:

January	56¼	54⅞
February	54⅞	53
March	54¼	52½
April	54	53½
May	54	52
June	52	50
July	51½	46¾
August	53¾	50
September	52 9/16	51½
October	53½	52
November	55	53½
December	58¼	56

In their circular of January 4, 1877, reviewing the business of 1876, Pixley & Abell, bullion-brokers in London, state that on the 8th of July

there was "*an exceptional sale at* 46¾." Such a quotation is of no more value than the maximum gold quotation of Black Friday in New York.

The causes which, in concurrence, produced the fluctuations in the relative value of gold and silver which culminated in July, 1876, were—

First, the demonetization of silver, by Germany in 1871, by the United States in 1873 and 1874, and by the Scandinavian States in 1874; the limitation on the coinage of silver imposed by France, Belgium, Switzerland, and Italy in 1874; the closure of the Holland mint against the coinage of silver on private account in April, 1875; the refusal of Switzerland, in 1875, to coin silver at all, and in the summer of 1876, by authority given to and actually exercised by the President of the French Republic, the suspension of the silver coinage altogether; the Spanish royal decree (1876) closing the mint of that kingdom against private depositors and declaring the purpose of that government to demonetize it for all sums exceeding $28 at the earliest practicable moment; and the submission (1876) to the Dutch legislative chambers of a ministerial project of demonetizing silver in Holland, and of extending to the mint in Java the restriction against coinage for individuals already imposed (April, 1875) upon the mint in Holland.

Second, a serious decline, for the time being, in the India demand for silver.

Third, an increase in the production of silver in the United States, considerable in fact, but the effect of which was immensely increased by exaggerations, and by the persistent error that the yield of the Comstock lode was wholly of silver, when it was really about one-half gold.

Fourth, the summary suppression by Germany of $130,000,000 of bank-notes and the consequent demand for gold to take their place.

Fifth, a law of the United States, enacted in 1875, ordaining a resumption of payments in gold January 1, 1879, and thus menacing the world with another enormous demand for that metal.

In respect to the effect of the last two facts, it may be observed that the British resumption of gold payments in 1821 raised the value of gold relatively to silver 5 per cent., although at that time all other countries had either the double standard or the silver standard, and there was, therefore, no such competition for gold as exists now. If the circumstances existing then had been similar to those existing to-day, England either could not have resumed payments in gold at all, or would have caused a much greater disturbance of the relation of the metals by such resumption.

Upon this enumeration of the causes of the recent divergence in the relation of gold and silver, it may be safely concluded that they will never exist again concurrently. At certain periods there may occur a great increase or decrease in the yield of either or both of the precious metals from the mines; or at certain intervals there may occur monetary crises and stagnations in commerce and industry. It is always possible that governments may tamper with their money standards, or may suspend or limit the coinage of either gold or silver. Each and all of these circumstances would have a greater or less effect upon the value of the precious metals, relative or otherwise. Overmastering exigencies sometimes compel national suspensions of specie payments, and neither national suspensions nor resumptions can occur without a perturbing effect upon the value of the precious metals relatively to other things, nor without such effect upon their relative value, if the countries suspending or resuming have their money standards based on a single metal. But it is not probable, nor scarcely possible, that all the causes of a divergence between the metals which have been operat-

ive in the recent case can ever again be acting simultaneously and in one direction within any period which need be covered by the foresight of legislation. There is an equal chance that all these causes may operate hereafter simultaneously in the other direction; and if it be wise to legislate against remote contingencies, gold should be demonetized as well as silver.

The tendency of the two metals to return to their old relation, or of silver to recover from its fall, if the latter mode of expression is to any persons more acceptable, was manifested very soon after the silver panic of last July, and has made a degree of progress which tends to confirm the belief that, in any event, the full recovery of the old relation may be relied upon. The partial recovery actually realized, while the causes of the widening of the relation of the metals still continue active, proves the existence of great forces always at work to steady the relation. No mints closed to silver have been opened to it; no law demonetizing silver has been repealed; no threat of demonetizing it has been withdrawn; and the supply of silver from the mines continues undiminished, although some of the exaggerations concerning it have been corrected. Nothing has been done by our Government since July, 1876, to raise the gold-price of silver, except the continuance of the coinage of subsidiary silver, authorized and commenced long before, under the resumption act of January, 1875. The influence of this demand has been more than offset by supplies from the increased sales of silver by the German government since last summer. The gold-price of silver has advanced since July, 1876, not by the aid of governments, but from its own inherent strength. Its value rests securely on the magnitude of the existing stock, its universal diffusion, and the universal demand for it by the people of all countries, and especially by the teeming populations of the East.

Jevons, who advocates the gold standard for Europe, said two years ago, (Money and Exchanges, page 142:)

> The hundreds of millions who inhabit India and China and other parts of the eastern and tropical regions employ a silver currency, and there is not the least fear that they will make any sudden change in their habits. Although the pouring out of forty or fifty millions sterling of silver from Germany may for some years depress the price of the metal, it can be gradually absorbed without difficulty by the eastern nations, which have for two or three thousand years received a continual stream of the precious metals from Europe. If other nations should, one after another, demonetize silver, yet the East may be found quite able to absorb all that is thrust upon it, provided that this be not done too rapidly.

In Asia, as elsewhere, the demand for money, in the sense of desire for it, is unlimited and insatiable. Undoubtedly the effective demand of Asia is limited to its capacity to pay for silver, but this guarantee of the value of silver, which is its money, is nothing short of the entire mass of the disposable commodities of the Asiatic world. It is difficult to see how any amount of silver which Europe has left, whether thrown upon Asia "rapidly" or otherwise, can have anything beyond the most transient influence.

The evidence on this branch of the subject all goes to establish the conclusions that the Asiatic demand alone will be sufficient, within a comparatively short period of time, to absorb the surplus stock of silver in Europe and overtake the current supply and place silver at its old relation of value to gold, and that, if the United States should remonetize it, the practical resumption of specie payments could not be more than fairly begun before the old equivalency between the metals would be restored. It is apparent that the current supply of silver is too

nearly stationary, and the surplus European stock too nearly exhausted, to resist much longer the appreciating effect of the old and continuing demand from the East. But if this old demand were re-inforced by the new, great, and increasing demand of the United States, as it would be if specie payments were resumed and silver remonetized in this country, the relative value of the metals would be almost instantly restored.

The opportunity to obtain silver, before the disposable European stock is entirely transferred to the East, ought to be seized upon by the United States. If it is lost by an indecisive and procrastinating policy, no equally favorable opportunity is likely ever to present itself again. Asia never gives up silver. There is no reflux in the current of silver which sets to the East. If this country waits until Europe is exhausted, it may become as difficult to obtain silver for coin payments as it is now to obtain gold for that purpose.

V.

THE POLICY OF REMONETIZING SILVER CONSIDERED IN REFERENCE TO THE RIGHTS, DUTIES, AND SPECIAL INTERESTS OF THE UNITED STATES.

Summary of the monetary laws of the United States.

In 1785 the Congress of the United States, under the Articles of Confederation, adopted the silver dollar as the unit of money. On the 2d of April, 1792, Congress, in the law establishing a mint, enacted that "*The money of the United States shall be expressed in dollars or units,*" the dollar "*to be of the value of a Spanish milled dollar, as the same is now current,*" and contain 371¼ grains of pure silver. The same act fixed the weight of pure gold in the eagle at 247.5 grains, or 24.75 grains of gold to the dollar, which made fifteen pounds of coined silver the equivalent in all payments of one pound of coined gold. In 1834, the weight of pure gold in the eagle was reduced to 232 grains, and, as no change was made in the silver dollar, the equivalency between gold and silver became 16.045 of silver to 1 of gold. In 1837, the quantity of alloy in both the gold and silver coinage was changed, so as to make the coins of both metals nine-tenths fine. The quantity of pure silver in the dollar was not changed, but the quantity of pure gold in the eagle was increased to 232.2 grains, so that the equivalency between gold and silver became 15.988 of silver to 1 of gold. Since 1837 no change has been authorized in the weight or purity of metal in either the gold or silver dollar. It will thus be seen that in the whole history of the United States the weight of pure silver in the silver dollar has never been changed, while the weight of pure gold in the gold dollar has been changed twice.

Gold and silver have been money in this country since its first settlement, by force of the English common law, and the Constitution of the United States recognizes and fixes them as money by the provision that the States shall not make anything but "*gold and silver coin a tender in the payment of debts.*" Congress cannot demonetize either gold or silver, except under a claim to a general authority over the subject of currency, upon which, if it exists at all, there are no limitations, and which may extend to monetizing any form of paper. If Congress can establish a legal tender, it is not prohibited, as the States are, from making anything "*but gold and silver coin a tender in payment of debts.*"

Between 1821 and 1834, when the legal equivalency between the metals was 15 to 1, gold was at a premium in silver of from 5 to 7 per

cent., and disappeared from the circulation, and but little was brought to the mint for coinage. The legal relation of value between the metals of about 16 of silver to 1 of gold established in 1834 was an undervaluation of silver. From that date on and until 1874 the silver dollar bore a premium in the London market over the gold dollar of from 1 to 3 per cent. Notwithstanding this premium, silver did not wholly disappear, as gold did between 1821 and 1834, but the quantity in circulation continually grew smaller down to 1862, when both the metals were expelled from the circulation by legal-tender paper. Between 1850 and 1873, whenever payments were made in coin, gold was used because it was the cheaper of the two metals, just as silver was used for a similar reason between 1821 and 1834; but during each of these periods both gold and silver possessed equally the potentiality of money, the metal out of actual use being certain to come again into actual use when the conditions changed.

After 1834, on account of the undervaluation of silver by the coinage law of that year, there was a tendency to export silver rather than gold in the settlement of adverse balances of foreign trade. In 1852 a scarcity of the small coins required in minor transactions began to be seriously felt. To meet this difficulty the act of February 21, 1853, was passed. It provided that the silver coins under the denomination of one dollar should be struck slightly below standard weight, and that the legal-tender function of such coins should be limited to five dollars in any one payment. This expedient, or the equivalent one of slightly debasing such coins, is familiar in the practice of European countries. Previous to the act of 1853 the owners of silver bullion had the right (act of January 18, 1837, section 30) to demand its coinage into any of the denominations of silver coin authorized by law. Before that act the law did not authorize any silver coins except the three-cent piece, which were not of standard weight and fineness, and which were not a legal tender for all sums. Under the provisions of that act, the subsidiary or fractional coins, being underweighted, possessed a mint value above their bullion value, and were permitted to be coined only on Government account. By this regulation the Government made a profit or seigniorage on the subsidiary coinage equal to the difference between its mint and bullion value. But after the passage of this law, as fully as before its passage, the owners of silver bullion had the right to demand its coinage into dollars, whose weight remained unchanged, and which, when coined, were equally with gold a full legal tender. This right was never denied to silver bullion until the passage of the law of February 12, 1873, nor was the legal-tender quality of the full-weighted silver dollar taken away or limited until the adoption of the Revised Statutes in June, 1874.

The act of February 12, 1873, above referred to, is a long act of sixty-seven sections, regulating all the details of the mint. It does not demonetize the old silver dollar or any of the silver coins of standard weight issued prior to 1853. The silver dollar is not named in it, and it would escape casual observation that that dollar was in any way affected by it. Precisely what the act did was to authorize the coinage of silver half-dollars, quarter-dollars, and dimes, below standard weight, and of a new silver coin for Asiatic commerce above standard weight, to be called "*the trade-dollar*," and to prohibit these particular coins, described as "*said coins*," from being a legal tender for more than five dollars in any one payment.

The act contains, in addition, an enumeration of the gold coins, and of the minor coins of base metal, which are authorized. It contained no prohibition, *eo nomine*, of the continued coinage of the old silver dollar, and that it did prohibit that coinage escaped the attentionof the people of the

country who were to be so injuriously affected by it, by the generality of the prohibitory words which are found in the seventeenth section:

No coins, either of gold, silver, or minor coinage, shall hereafter be issued from the mint, other than those of the denominations, standards, and weights herein set forth.

The act of February 12, 1873, did not demonetize or affect in any manner the legal-tender functions of the full-weighted silver coins that had been minted prior to its passage, but the seventeenth section deprived silver bullion of its right of being coined into full legal-tender money, on either Government or private account.

In no section of the act was it specifically pointed out or referred to that the effect of the act was to change the standard of values from gold and silver to gold alone. The title of the act, instead of containing any intimation of the change made in the standard of values, was "*An act revising and amending the laws relative to the mints, assay-offices, and coinage of the United States.*" As comprehensive a title as this would have been required for an act making some insignificant change in the nickel coinage, or in the mode of purchasing chemicals used in assaying.

The act when passed was not read except by title, and it is notorious that this transcendent change in the money system of the country, affecting the most vital interests, was carried through without the knowledge or observation of the country. It was neither demanded by the resolutions of public meetings or political conventions, nor asked for in petitions from the people. As paper money was the actual currency of the country at the time, a coinage act was not likely to attract general attention. In its relation to the question of a single or double standard, it was discussed but little in the House, and not at all in the Senate. The press of the country was entirely unobservant or silent when it was pending and when it was passed, and for more than three years afterward. If it had been generally known that any such vital question as the demonetization of silver was lurking in the bill, it would have aroused the most wide-spreading discussion throughout the country, as is shown by the present debate upon remonetizing it, which is only the same question reversed, and which, it is apparent, will dominate all other public questions until it is settled.

The most striking evidence, perhaps, of the public inattention to the effect of the coinage act of 1873, is the fact that President Grant, who signed it, and who was critically observant of the legislation of Congress, had no knowledge of what it really accomplished in relation to the demonetization of silver, and was still uninformed about it as late as the following October. If the President of the United States, in daily intercourse with the public men of the country, had failed to hear during certainly eight months that the laws no longer permitted money to be coined from silver, it must be true that the ignorance on the subject was general and profound.

In a letter written October 3, 1873, to Mr. Cowdrey, General Grant said:

I wonder that silver is not already coming into the market to supply the deficiency in the circulating medium. * * * Experience has proved that it takes about $40,000,000 of fractional currency to make the small change necessary for the transaction of the business of the country. Silver will gradually take the place of this currency, and, further, will become the standard of values, which will be hoarded in a small way. I estimate that this will consume from $200,000,000 to $300,000,000 in time of this species of our circulating medium. * * * * I confess to a desire to see a limited hoarding of money. But I want to see a hoarding of something that is a standard of value the world over. Silver is this. * * * *

Our mines are now producing almost unlimited amounts of silver, and it is becoming a question, "What shall we do with it?" I suggest here a solution which will answer for some years, to put it in circulation, keeping it there until it is fixed, and then we will find other markets.

The demonetization of silver, coined and uncoined, was affirmatively completed in June, 1874, by the following section (3586) of the Revised Statutes:

The silver coins of the United States shall be a legal tender at their nominal value for any amount not exceeding five dollars in any one payment.

No law was ever passed by Congress of which this language can be considered a revision.

The Revised Statutes were enacted in bulk. They were intended to be a revision merely of the existing laws, without change or introduction of new matter, and Congress was assured by its committee on revision that no new matter had been introduced into them. It was not possible for the members of the committee to have personally verified the exact accuracy of the revision. They must necessarily have relied upon assurances given to them by the persons actually engaged in the work. Whoever may be responsible for this error in the Revised Statutes, the ancient money of the country, instead of being intentionally legislated out of existence by Congress, was revised out of existence.

Great importance of silver in the monetary history of the country.

A very disingenuous and unworthy attempt is made to belittle the importance of silver in the monetary history of the country, and to misrepresent what is intended by its remonetization, by iterating and reiterating the totally irrelevant fact, that one particular silver coin, the dollar piece, was never coined at the mints in large numbers. This fact is of no more importance than the other fact, which is equally true, that the gold coin of the value of one dollar has been minted in only small numbers, and is now not permitted to be minted at all. It is not a particular silver coin, the remonetization of which is demanded, but it is the metal silver, in whatever denominations of coins the law may authorize and depositors of silver bullion at the mints may choose to demand. The reason why they never did demand the dollar piece in large quantities is perfectly well known. It was the great abundance of the Spanish silver dollars, when the mint was first established, and for forty or fifty years afterward, followed by the great abundance of the Mexican silver dollars, both of which were made a legal tender in this country, by tale or count. But while the unnecessary expense was avoided of procuring the coinage of a particular piece, which was already well supplied, it is still true that for 54 years, from 1793, when the mint went into operation, to 1846, both inclusive, there was more full-tender silver coined than gold, the figures being for silver $68,839,014, and for gold $52,344,522. And even from 1834 to 1846, both inclusive, although silver was largely undervalued by the coinage law of 1834, there was nearly as much full-tender silver as gold coined, the figures being for silver $32,763,937 and for gold $40,518,652. The preponderance of silver down to 1847 was even more marked in the circulation than in the coinage. Prior to 1834, all gold coins, domestic and foreign, had disappeared from the circulation in consequence of the premium on gold, which, at the legal relation then existing of 15 of silver to 1 of gold, ranged bewteen 5 and 7 per cent. after 1821, when the Bank of England began gold payments. It was not until after the California discoveries that gold was much used. Prior to that time the reserves of the State banks were almost wholly in silver, and largely in American half-dollars. This is well known to those whose recollection goes so far back, and it is a flagrant perversion of history to deny that silver performed a more important part than gold in the monetary history of this country during the greater part of the time

down to 1862, although no silver-mines had been until then discovered and worked in the United States. Gold has predominated over silver in the circulation for a short period only, commencing after 1846, from the outflow of the Russian gold-fields, followed by the outflow from California and Australia, and ending with 1862, when paper issues banished metallic money. During the 84 years, from the opening of the mint to the present time, and during the 70 years from the opening of the mint to the suspension of specie payments, silver predominated for 54 years in the coinage, and still more decisively in use and circulation.

The dollar piece was little called for, not only because it was superseded by the Spanish and Mexican dollar pieces, but because the half-dollar answered all the purposes of the dollar piece, and some purposes which it would not answer. To and including 1846, $58,964,673 were coined at the mint in half-dollars. The non-coinage of the silver dollar piece is of no more importance than the non-coinage, now made absolute and complete by law, of the gold dollar piece. It is no such trifling question as that which now agitates this country; but it is the demonetization of one of the two precious metals, and the striking down of prices to the standard of the other metal alone. It is not the silver dollar, but silver money, in whatever convenient forms the law may authorize and the owners of silver bullion may elect, whose restoration to its ancient and constitutional place is demanded.

It is urged by many that silver was practically demonetized by the act of 1834, which undervalued it; by others, that it was practically demonetized by the act of 1853, authorizing subsidiary silver coins. Although these persons disagree as to dates and causes, they agree in insisting that it was practically demonetized in some way, and at some time before 1873, and that the legislation of 1873–'74 in respect to silver merely gave legal expression to an existing fact. If silver was then already demonetized, the persistency of the efforts to secure the passage of a law to demonetize it appears remarkable. From June 9, 1868, when Mr. Sherman, chairman of the Committee on Finance, made a report to the United States Senate in favor of "*a single standard, exclusively of gold*," to February 12, 1873, no session of Congress went by in which some bill relating to the coinage, to compass that object, did not make its appearance. These efforts did not attract public attention, but the records exhibit them. Watchful and persistent labors are never undergone to accomplish what is already accomplished. The manifest truth is that silver was demonetized in 1873–'74, not because it was already demonetized, but because it was still money and stood in the way of the scheme to establish "*a single standard, exclusively of gold.*" As the essence of money in the Western World is the legal-tender function, it is only by law that anything can be monetized or demonetized, and silver was as completely a money-metal in this country until 1873–'74 as it had ever been. What is loosely spoken of as its practical demonetization at that time, was its temporary disappearance from the circulation, because its market-value happened to exceed its mint-value. Its legal demonetization had no practical effect for the time being, and there could have been no other reason for it than the apprehension, since realized in fact, that the vicissitudes of mining, or the legislation of other countries, might again make silver rather than gold the more available metal, and bring it again into circulation.

Alleged reasons for the law of February 12, 1873, *relating to silver. Effects of the law on public and private rights.*

No adequate or satisfactory reasons for the enactment of the laws of 1873–'74, demonetizing silver, have ever been given. In the brief dis-

cussion on the bill in the House of Representatives the principal reason assigned in favor of those sections which interdicted the future coinage of the silver dollar was, that its value was 3 per cent. greater than the value of the gold dollar, and that on this account it could not circulate concurrently with the gold dollar, and that no silver was brought to the mint to be coined for circulation. There certainly could not have been any pressing necessity for legislation prohibiting a coinage which was not asked for, and if it was wise to prohibit the coinage of silver because it could not circulate, it would have been equally wise to have prohibited the coinage of gold for the same reason. Paper money, to the exclusion of both gold and silver, had been the sole circulating medium for eleven years. It could not be urged that the business of the country was subjected to any injury or inconvenience by the fluctuations in the relative value of a metal which was not in use and whose coinage was not demanded. Nor can it be easily comprehended how any harm could have resulted from the retention of the option then undisputed of using either of the metals, neither of which was then in use. Such an option, always valuable, has since become of the greatest importance, and it seems strange that it should have been given away without any consideration.

Nor could it have been a reason for the passage of the act, that in consequence of constant fluctuations in the relative value of the metals the money standard was frequently changing from one metal to the other. Only one such change had ever occurred in the history of the country, and that was not caused by a change in the relative market value of the metals, but by a change in their legal relation by the coinage law of 1834, which, by reducing the weight of the gold dollar, undervalued silver and caused it to be exported.

The law of 1873 was not needed to prevent the Secretary of the Treasury from paying the interest or principal of the public debt in silver, because, under the option which the United States reserved when those debts were contracted, his duty to the country would require him to continue to pay in gold as long as it continued to be the cheaper metal. It cannot be supposed to have been the intention of the framers and supporters of the law to discourage silver-mining, one of the great industries of the country, or to deprive the United States of the debt-paying resource which its newly-discovered silver-mines furnished.

The object of the framers of the law could not have been to strengthen the public credit. The amount of credit which either a nation or an individual can possess, depends upon the strength and extent of the belief among lenders and capitalists that the borrower is both able and willing to meet the exact terms of his obligations. An offer to do more would subject the debtor to well-merited suspicion and distrust. He cannot improve his credit by promising to pay a larger amount of money, or money of greater value, than the terms of the obligations held against him require. The sufficient, best, and only means of improving credit, public or private, is an exact performance of contracts. The debtor that insists upon all his rights and at the same time performs all his duties, is the one most confided in. Credit can be strengthened by fulfilling contracts but not by changing them; by performing old promises and not by making new ones.

Nor could the object of the framers of the law have been to advance the value of bonds already sold and in the hands of purchasers. It would be of great public importance to enhance the value of bonds which the Government was proposing to sell, but to overload the country with additional burdens for the purpose of enhancing the value of outstanding

bonds, would be to subserve gratuitously and unjustly private interests at the public expense. It would be very gratifying to national pride to have the bonds of the United States now in private hands command the highest prices in the markets of the world, but it could scarcely be deemed a wise financial policy in the present condition of the country to obtain that gratification by paying a premium for it. If, however, it were deemed advisable to enhance the value of bonds already sold, it should have been done by some plain and direct method, and in such a way that the country might know exactly what it was going to cost—as, for instance, by increasing the principal or rate of interest of outstanding bonds. It should not have been done by the indirect method of changing the medium of payment from gold or silver, at the option of the Government, to gold alone. The additional burden which that might impose, from a rise in the value of gold, is incalculable.

The wisdom of refunding the public debt before maturity, by retiring old bonds with the proceeds of the sales of new ones bearing a lower rate of interest, would be unquestionable, if the new bonds were issued on the same conditions and terms as the old ones. But if the new bonds are to run on a long time, and are to be payable only in the rapidly-appreciating metal, gold, instead of optionally in gold or silver as the old bonds are payable, it would be wiser not to refund at all. The country can better endure the present rates of interest than an indefinite increase in the value of the money in which the principal of its debts is payable.

If the gold obtained by the issue of a bond payable only in gold was used to purchase silver wherewith to pay off the 5-20 bonds, which can be paid legally and equitably in silver as well as in gold, the country would gain the present difference between the currency prices of gold and silver. Such a gain would not justify the great and unknown risk of a long-time promise of gold, but it would be worth something. But if the gold borrowed on gold bonds is to be applied directly to the payment of the 5-20 bonds, and the saving of converting it into silver for their payment is gratuitously thrown away, the operation would be, in all its aspects, a marvel of folly.

The defense most frequently made for the demonetizing act was, and is, that the silver dollar had been substantially out of circulation for twenty years. But those who make this defense forget that, until demonetized, it had always possessed all the functions of money and served as a sure protection against any considerable rise in gold. It bore a premium of only 3 per cent. in 1873, and if coin payments had been resumed then gold could not have risen more than 3 per cent. without bringing the silver dollar into immediate use. It was, when demonetized, standing guard against a rise in gold. To divest either metal of the money function because temporarily out of use would be reckless and unwise. As well might the commander of an army while a battle was raging disband and discharge his reserves because they were not engaged at the front. As well might the master of a ship cut loose and scuttle his lifeboats because the sky was clear and the sea calm, or because the transfer of passengers and crew from ship to boats might cause some inconvenience.

Duties and rights of the United States in respect to its coin obligations.

All the debts of the United States, when any special medium of the payment of either interest or principal is expressed, are made payable either in paper money or "*in coin*," but never in gold. The 5-20 bonds

issued under the act of February 25, 1862, were made payable—the principal in dollars, without specifying the kind, and which might mean dollars in paper or coin, and the interest in coin; and, in order to secure the coin for paying the interest, the act specially appropriates the customs duties, and provides that they shall be collected "*in coin*" only, which includes silver as well as gold coin. The latest and still continuing law in respect to those duties, which is found in section 3473 of the Revised Statutes of 1874, declares that they may be paid in "*gold and silver coin.*"

The act of March 3, 1863, under which the 10-40 bonds were issued, makes both the principal and interest of those bonds payable "*in coin.*"

The well-known declaratory resolution of March 18, 1869, to "*strengthen the public credit,*" makes no promise of gold, but expressly recognizes "*gold or silver*" as constituting the "*coin*" promised in prior acts. The special pledge of the law of March 18, 1869, is that all national obligations shall be paid in "*coin* or its equivalent," except those in respect to which it may have been "expressly provided that the same may be paid in lawful money, or other currency than *gold or silver.*"

The act of July 14, 1870, under which the national debt is now being refunded, provides for payments, not in gold, but "*in coin,*" and the only new provision which it contains is that payments shall be made "*in coin of the present standard value.*"

Bonds issued under the act of July 14, 1870, have printed on them the following words:

This bond is issued in accordance with the provisions of an act of Congress entitled "An act to authorize the refunding of the national debt," approved July 14, 1870, amended by an act approved January 20, 1871, and is redeemable at the pleasure of the United States after, &c., in coin of the standard value of the United States on said July 14, 1870, with interest in such coin.

On the 14th of July, 1870, the silver dollar contained 412.5 grains of standard silver, and was the legal equivalent of the gold dollar, which then contained, as it does now, 25.8 grains of standard gold. Both the silver and gold dollars were invested with the same function as money, and were equally a legal tender for all debts, public and private, and for all sums. Any person having either gold or silver bullion had the right to deposit it at the mint, and have it coined for his account, in the order of its presentation, into full legal-tender money, and, being so coined, it became coin of the "*present standard value,*" as intended by the act of July 14, 1870, and in which bonds issued under that act may be legally paid.

The right to demonetize gold rests on the same foundation as the right to demonetize silver, and the right to demonetize both is as well assured as the right to demonetize either. It is not disputed that the United States may change at will either the weight or the purity of the metal in its coins. It might make its coins $\frac{7}{10}$ instead of $\frac{9}{10}$ fine, or might make the gold and silver dollar, or unit of value, contain more or less gold and silver respectively than was contained in the gold or silver dollar of the standard value of July 14, 1870. But neither the demonetization of one or both of the metals, nor a change of weight or purity of metal in either gold or silver dollars, could either deprive the country of any of its rights or relieve it of any of its obligations in respect to bonds issued under the act of July 14, 1870. Nor could such legislation build up any new rights or break down any old ones of the holders of bonds issued under that act. The very terms, "*coins of the present standard value,*" used in that act to describe the medium in which bonds issued under it were payable, implied not only the power of the Government to change the

"*standard value*" of its coins as existing July 14, 1870, but the probability that such changes might be made. What the act does is to protect the holders of bonds issued under it from being affected by such changes. Those bonds hold the United States, not to pay dollars of such weight, purity, and material as may constitute coin of the standard value when the interest or the principal of the bonds falls due, but to pay, at its option, in dollars of either gold or silver, of the weight and purity of "*coin of the standard value of the United States on said July* 14, 1870." If the United States should make its money to consist of paper, or of platinum coins, such as were formerly minted in Russia, it must still provide gold or silver coins for the holders of bonds issued under the act of July 14, 1870, and of the "*standard value*" existing on that day. If the United States should hereafter diminish by one-half the weight of pure metal in the gold and silver dollar respectively, the rights of the holders of those bonds could not be prejudiced thereby; neither could the rights of the Government be prejudiced under opposite conditions. Under all circumstances the holders of those bonds have the clear right to demand coin of the "*standard value*" of July 14, 1870; and equally clear is the right of the United States to pay in coin of gold or silver, at its option, of that "*standard value.*" These rights are the correlatives of each other and must stand or fall together. If the Government should refuse to pay bonds issued under the act of July 14, 1870, in coin of the then "*standard value,*" it would be a repudiation of the rights of the bondholder. If it should deny to the nation its option of selecting for such payment either gold or silver coin of the "*standard value*" of July 14, 1870, it would be a repudiation of the rights of the people.

The object of the act of July 14, 1870, was to refund the public debt at lower rates of interest, and the framers of the act naturally desired, so far as they could properly do so, to make the terms of the bonds authorized by it acceptable to the classes of persons most likely to subscribe for them. It is a well-settled rule of law in this country that public and private contracts to pay dollars, without a specification of any particular kind of dollars, are satisfied by the payment of whatever may be legal dollars when the contracts mature. The principle of this rule is recognized among all civilized nations. In view of this well-known rule, and in order that the rights and duties of both the Government and the bondholder should be specifically defined, the promise of prior acts to pay "*in coin*" was changed in the act of July 14, 1870, to a promise to pay in "*coin of the present standard value.*" This change insured the purchasers of bonds issued under it against being paid in coins of a different standard value; but not less clearly did it insure to the people of the United States the privilege of paying, at their option, in any of such coins. If the new language holds the United States rigorously to pay in such coins, not less rigorously does it hold the owners of the bonds to accept them.

The United States owes no debt either contracted or payable in Europe, although its bonds, payable at home, are largely held there. It has created no foreign debt since the revolutionary war. All its debts and bonds are payable in this country and in dollars. The law gives no advantage to the creditors of the United States who live in foreign countries over creditors who reside in this country. They occupy exactly the same position, equitably and legally. Many attempts have been made to induce Congress to authorize the issue of bonds payable in foreign countries and in foreign money, but such attempts have never succeeded, except in the single instance of one small loan, (United States

Statutes, vol. 12, p. 260,) which was authorized but never negotiated. Europeans and all others who purchase United States bonds do so voluntarily, and exclusively for their own profit and advantage, and not for the profit or advantage of the United States. They purchase them with a full knowledge of the laws which authorize their issue and specifically set forth their terms. The laws are open to the examination of all, and no one has the right to plead ignorance of them as a reason for perverting in his interest their plain meaning. No bond has ever been issued without having printed on its face a reference to the law authorizing it, together with a substantial statement of its terms. It is incredible that any bonds have been purchased without a full knowledge of their terms on the part of the purchaser; and, be that as it may, the United States, in dealing with its debts, must be governed strictly by the laws authorizing them. These laws were intended not less scrupulously to protect the rights of the nation than the rights of the bondholder, and no safeguard of the interests of the nation can be lost because it was overlooked by careless creditors.

The legal right of the United States to pay its bonds in gold or silver, at its option, is so clear that no serious denial of it is made. The claim that they should be paid only in gold is placed on vague and shadowy grounds. So far as it is possible to apprehend these grounds, they are, that when these bonds were issued silver was out of use as money; that the larger part of those held abroad at the present time are held in countries which do not recognize silver as money; that whenever coin has been paid for these bonds, it has been gold coin and not silver coin; and that the purchasers expected to be paid in gold; and that on account of these considerations both equity and honor demand that they should be so paid. The truth is, that gold has been as much out of ordinary use in this country as silver during the whole period covered by the negotiation and sale of these bonds, and that Germany, where the earliest and largest purchases of them were made, did not recognize gold as money until December, 1871, and has now quite as much silver as gold in its circulation. Down to 1873 the coin purchasers of the bonds did not forget that they had an option between silver and gold money, nor did they fail to exercise that option by selecting gold, which was the cheaper of the two metals, as their medium of purchase, nor should the Government now forget that it has the same option, and that it would be worse than weakness not to exercise it by selecting the cheaper of the two metals as the medium of payment. Those who purchased bonds with gold when it was the cheaper metal, could have expected to be paid in gold only so long as it continued to be the cheaper metal. If they have been disappointed in what has since happened, it is in the fact that silver has become the cheaper metal. They always knew that the United States had the same option of paying in the cheaper metal which they had themselves exercised in purchasing. They may be somewhat disappointed to find that this option cannot be taken away by any legislation subsequent to the dates of the contracts which they hold, and that the step from coin to gold is a more difficult one to take than the step from currency to coin, for which the congressional resolution of March 18, 1869, seems to have been sufficient.

The attempt to frighten the Government from exercising its undoubted right to pay its bonds in the cheaper metal, by proclaiming that if it does so its honor will be tarnished and its credit impaired at home and abroad, is unworthy of consideration. The punctual fulfillment to the letter of all obligations is the surest and best support of the credit of any country. Its honor can rest permanently, in peace and in war,

only on the patriotism of its people, which is sure to be weakened if their substance is taxed to pay premiums for the applause of its creditors. The United States is the only nation that has never made a default in its promises. It has never failed to meet punctually and fully all its obligations. It is nearly a hundred years since its Government was formed under the existing Constitution, and if it has not acquired a perfect credit by the scrupulous fulfillment during that time of all its obligations, it cannot hope to acquire such a credit by anything that it can do hereafter. Within that time it has seen the strongest governments in Europe make default in the payment of their obligations. Even Great Britain, for many years during the present century, paid the interest of its public debt, a large proportion of which had been contracted in coin, in inconvertible bank notes, whose depreciation reached sometimes as high as thirty per cent. While nearly all nations have on various occasions met their obligations in a money less valuable than they agreed to pay, the Government of the United States stands alone and pre-eminent in the generosity and in the folly of paying in a money more valuable than it agreed to pay. The only compensation which it has received for the added burdens thrown upon its citizens by an over-performance of its contracts is the interested praise of those benefited, which is as insincere as it is interested. Those who obtain an unjust advantage have a real contempt, however concealed, for the weakness that concedes it. That sensitiveness, so morbidly manifested by some in respect to the estimation in which this Government may be held by its creditors here and abroad, and their indifference as to the estimation in which it shall be held by the great mass of its own citizens, instead of being evidence of proper national pride, is an exhibition of weak and puerile vanity. That sentimental idea of honor which requires the abrogation of the plain terms of a written contract by one of the parties to it, against its own interest and at the demand of the other party, while suited to youthful fancy and refreshing in the pages of cheap literature, should find no place in official interpretations defining the rights and duties of a nation under contracts whose written terms are so precise as to exclude implication.

A written contract must be construed in accordance with its expressed terms. Any other method of interpretation would be the source of endless confusion and injustice. This is especially true of written contracts between a government and its creditors. As no tribunal exists to decide the equities between them, the question of equity and honor cannot be safely opened by a government. It could only decide on such equities as might be adverse to itself, while the creditor would insist on the equities of the contract when in his favor, and on the terms when the equities were against him. Suitors before chancery tribunals are bound by the rule that those who seek equity must do equity. In this case, there are many and strong equities on the side of the United States. During the civil war its bonds were sold at par for paper which was worth as little as forty cents in gold or silver on the dollar. In respect to the bonds sold since the civil war for metallic money, such money greatly appreciated after the sales, and is still appreciating. If the United States, on account of either of these circumstances, should reduce the amounts nominally due on its bonds, it would be charged with dishonor and repudiation. There is no court to which it can present these equities, and it therefore cannot entertain the vague, doubtful, and far inferior equities urged in behalf of its creditors.

The honor of the Government was no more sacredly pledged to the bondholder, that the principal and interest of bonds issued under the act of July 14, 1870, should be paid in coin of the standard value of

that date, than it was to the people that they should have the option and privilege of paying the bonds issued under that act in either of the classes of coin of the standard value of that date. There are two parties to these contracts, the bondholder on the one side and the masses of the people on the other. The rights of the one are as sacred as the rights of the other.

In the case of the Government, the arguments against enlarging the terms of its written contracts, to satisfy the claims of an imaginary honor, are even stronger than in the case of individuals. The proposed gratuities to bondholders are not to be paid by those who hope thereby to obtain a meretricious applause, but are to be made at the expense of posterity, the mortgage upon whose earnings is to be changed to their prejudice after it has been recorded. The burdens thrown upon individuals are borne by them personally or by their existing property, but the burden thrown upon a nation may be extended to an indefinite future. To mortgage the labor of posterity and coin it into money for present wants is a doubtful right at best. Until lately it has been an established canon of American political doctrine that no generation can bind its successors, and that every public debt must be paid off during the generation which created it. At all events, no attempt should be made to impose burdens on posterity, unless commensurate benefits are conferred with them, and to increase gratuitously such burdens in order to gratify sublimated notions of honor is as indefensible in morals as it is in law.

The United States reserved the option of paying its debts in either metal, as a protection against any combination of circumstances, and against any legislation of foreign governments relative to the precious metals which might cause a divergence in the relative value of gold and silver. This option, always important, and doubly so when a divergence exists, has always been exercised by the United States, and its right and duty to exercise it is as clear to-day as it has ever been since the formation of the Government. It was a powerful and persistent creditor influence that caused the demonetization and consequent depreciation of silver relatively to gold. The masses of the people, including the debtors of all countries, were opposed to it. If it were true, as it is not, that creditors would now suffer loss if paid in silver, they should receive no sympathy, nor should they complain of the legitimate consequences of their own acts. The bonds of the United States are supposed to be more largely held in Germany than in any European country. Germany had the single silver standard until 1871, and by discarding it and adopting the gold standard became the principal cause of the recent divergence between the metals. The subjects of the German empire cannot justly complain of a payment in silver depreciated by the action of their own government.

If individuals or syndicates, who have made contracts for the purchase of bonds of the United States at fixed prices, and whose profits and commissions depend upon the prices at which they make sales, have made representations as to the tenor and meaning of the bonds not warranted by law or by the language of the bonds, the United States cannot be held responsible for such statements. That is a matter purely between them and their customers.

The only safe course for both parties to these bonds is to abide by their plain letter and by the laws which alone give them any validity whatever.

Large national debts, contracted under the pressure of war, are generally contracted on hard terms. There is a temptation to scale them down afterward to more equitable terms, and a provocation to that is

given if the holders of such bonds attempt, by influencing legislation or otherwise, to secure new and still better terms for themselves long after the loans are made. Their strongest and best position is to stand upon the sacredness of contracts, and they may lose a portion of what is now conceded to them by seeking more than their contracts entitle them to.

The act of July 14, 1870, pledged the Government of the United States to pay the bonds issued under it in dollars coined at its option out of either gold or silver, and that the dollars coined of gold should each contain 25.8 grains nine-tenths fine, and that those of silver should each contain 412.5 grains of the same purity, and that for the purpose of such payment no other or different dollar from those described should be used. But that act did not, nor could it, bind the Government to retain either kind of dollar, or either gold or silver, as money. It, in effect, pledged the Government to pay those bonds at its option in one or the other of the classes of dollars described, whatever its money might be. The question of what its money shall be is a domestic question always within the sovereign discretion of the United States, and in respect to which it never did and never can give pledges for the future.

The United States might decide to demonetize gold as well as silver, and to maintain and enlarge the circulation of paper. The effect of this would be to lower the value of both metals, by withdrawing any demand for them as money in this country, and by setting an example of disusing them, which might be followed elsewhere. Just as a large demand for gold here as money must raise its value and increase the burden of debts payable in gold, so the disuse of the metals here would cheapen them and diminish the burden of debts payable in them. The Government of the United States has never come under obligation to its creditors or anybody else to retain either of the metals as money. After demonetizing them, however, it would still be its duty to coin them for the purpose of complying with the terms of bonds issued under the act of July 14, 1870. Of the striking of coins for special purposes, we have examples in the subsidiary silver coins and in the trade-dollar. The question of remonetizing silver has no connection whatever with the right or duty of using silver in payment of the coin obligations incurred under that act, but it does directly affect the interests of the holders of such obligations. The remonetization of silver in this country would, by giving it a new and large use, cause it to increase in value, which is of great importance to the holders of bonds which, according to their conditions, are payable in either gold or silver, at the option of the United States. The holders of such bonds are the last persons who should oppose the remonetization of silver.

For even if silver is not remonetized, it can hardly be supposed that the Government of this country will be so untrue to the interests of the nation confided to its charge as to give up, or fail to exercise, the option it has of paying the bonds in silver, or that authority will not be given and exercised to coin silver for that, even if for no other purpose.

If positions were reversed and if the Government was the holder of these bonds, it would be regarded as a violation of the letter and spirit of the agreement, and a repudiation of honorable obligation, if it should neglect or refuse to coin, at the will of the debtor, either of the metals in which the bonds were payable. A rule, to be equitable, must work both ways.

The promise of the United States to the purchasers of bonds under the act of July 14, 1870, is not to pay money, but to pay "coin" of the then "*standard value*," meaning of the weight and fineness of the gold and silver dollars then being coined at the mint. Both parties took the risk of the fluctuations of the metals. The United States received no

guarantee against their rise, and gave no guarantee against their fall. The assumption that the agreement of the United States was to pay coin of the then market or commercial value is to the last degree absurd. The United States agreed to pay a specific thing, not a specific value. There is no tribunal to determine what the changes are in the market or commercial value of dollars. No prudent government or individual would give an obligation so shadowy and indefinite, and no prudent capitalist would accept such an obligation.

In issuing bonds under the act of July 14, 1870, the United States took the risk of a rise in the value of both the metals. The parties accepting the bonds took the opposite risk of a fall in the value of either of them. The chances against the United States were wars and political disturbances in the mining countries, such as caused a decrease in the production of gold and silver between 1809 and 1848, or that the mines would be from any other cause less productive, or that countries not using gold or silver might decree their use as money, and thus make a new demand for them, or that a change of fashion might increase the consumption of the metals in the arts. Either of these circumstances, or all combined, might raise the value of the metals very materially. On their part, those who accepted the bonds took the risks of an increased production of either or both of the metals by the discovery of new gold and silver mines or by the more vigorous working of old mines, or that commercial countries *might demonetize one or both of the metals*, or that great amounts of gold or silver might be liberated by the suspension of specie payments in important countries, or that the habits of the world might be so changed that less amounts of gold and silver would be used for other purposes than as money. Either of these circumstances, or all combined, might depreciate the value of one or both of the metals very materially.

One fact, not a matter of chance but of reasonable certainty, operates steadily against the United States. This is the advance of the world in population, wealth, and exchanges, and the consequent requirement of more money, with no certainty that the mines will produce more.

The risks were and are mutual. Is it supposable that, upon the occurrence of any or all of the circumstances which would tend to raise the value of both metals, and thereby increase the burden of obligations payable in them, the United States would ask or that the bondholder would agree to a corresponding scaling of the contract? Has a bargain been made where the creditors, under all vicissitudes, stand to win and not to lose? Is the United States bound to the obligations and penalties of the contract, and debarred from all the advantages conferred by its terms? These interrogatories admit of but one reply.

There is no dispute about the facts of the case or the law. A contract has been entered into between the Government and its creditors, involving contingencies which may favor either party, and both parties must abide the issue, whatever it may be. It would be beneath the dignity of the Government to demand any advantages which the law and the contract made under it do not confer. It would be a violation of justice and a betrayal of the great interests confided to its charge to accept anything less. The Government is an agent and not a principal. It is the trustee of the nation, and must find the charter and guide for the administration of the affairs intrusted to it in the law and not in sentimental emotions.

The creditor would have no reason to complain of either the law or the fact if he were now paid in silver. The contingencies which have happened have not been favorable to the United States, but otherwise.

Not only has the value of both the metals risen, but a comparison of gold prices in 1870 with silver prices in 1877 will show that the purchasing power of silver is greater now than the purchasing power of gold was then. Payment to-day in silver would not only give the creditor all that he is entitled to under the law and the contract, but would mete out to him more than equity alone would demand.

It is sometimes said that the more recently-issued bonds should be paid in gold, because the United States receives gold for them. The obligations of a bond are not governed by the price, or the species of money, or the nature of the consideration received by those who issue it. They are governed by the terms of the bond, and not by what it is sold for. A bond sold at 105 can have no other construction than a similar bond sold at 50, and a bond sold for gold can have no other construction than a similar bond sold for silver or greenbacks or given in payment for supplies or services. The promise, and not the consideration, governs. If it were really true that what is received for bonds determines what they promise, the holders of a majority of the outstanding bonds of the United States would be in a much less favorable position than they now occupy.

Indebtedness of the United States to Europe and trade relations with Europe.

We are largely the debtors of Europe, a relation we do not occupy toward any other quarter of the globe. The aggregate of our indebtedness, public and corporate held there, is estimated to exceed $2,000,000,000 and is, on any computation, an immense sum. If it be taken at $2,000,000,000, the annual interest must be fully $100,000,000. This is the minimum of the current estimates. It is not a tribute, in the odious sense of a contribution exacted by a sovereign or imposed by a conqueror, but in its financial effects does not differ from either, and there has never been any parallel to it in history, ancient or modern. In the recent and continuing discussions in Great Britain it is treated as a capital and dominating fact relative to British India that India is obliged to pay annually in London £15,000,000, or $75,000,000, partly as interest upon loans and partly for expenditures of the Indian administration in England. But India has a population five times greater than that of the United States, and its London payments are in larger proportion for interest on money expended in productive works than is the foreign interest-account of this country. No part of our national debt, which is so largely held abroad, arose from investments in productive works.

We occupy still another relation to Europe. It is the principal purchaser of our agricultural staples, of our petroleum, and of the raw products of our forests. So long as we export those articles Europe will be our chief customer. It has the manufacturers to buy our cotton, and a dense population whose demand for food and raw products of various kinds cannot be supplied at home. For a long future we shall find there the principal foreign market for our timber, petroleum, cotton, cereals, tobacco, rice, beef, pork, and dairy products, and it is from the proceeds of these commodities that the interest on our debts held in Europe must be and is really paid. And it is with those countries which now have the gold standard, or have taken steps in that direction, and pre-eminently with Great Britain, that we have these relations of trade.

Two modes of resuming coin payments in this country are proposed. One is under the single standard of gold; the other is under the optional standard of gold and silver.

If we resume specie payments in gold alone, the quantity needed will be very great, and we must either withdraw it from Europe or intercept gold that would otherwise reach Europe, which would amount practically to the same thing. To whatever extent coin payments in gold require more gold than coin payments in gold and silver would require, to that extent the competition for gold between the United States and Europe will be made more severe, and the drain of gold from Europe will be greater, with the unavoidable consequence of a fall in Europe of the gold-prices of all commodities. This would be disastrous to the masses of the people of this country, even if the merchandise imports and exports in the European trade were equal. The producers of the staples sent to Europe include the entire agricultural interest, and far exceed in numbers the consumers of European goods. But merchandise imports and exports in the European trade are not equal, on the contrary, the excess of exports is very large, and must be so as long as the United States has a large annual interest-account to pay in Europe. Comparing for the two last fiscal years, ending June 30, 1875 and 1876, the merchandise imports and exports with all European countries, the following results are shown:

Years.	Imports from Europe.	Exports to Europe.
1875	$281,234,787	$452,432,255
1876	232,133,822	498,558,300

The trade with Great Britain, which is a gold-standard country, shows the following even greater proportion of exports, exclusive of gold and silver:

Years.	Imports from Great Britain.	Exports to Great Britain.
1875	$155,297,944	$371,745,682
1876	123,373,281	368,900,324

Falling prices in Europe, and especially in Great Britain, imply diminished returns for the same quantities of our exports to that continent, and a corresponding increase of the real burden of paying the principal and interest of our debts held there.

If the United States should resume specie payments under the optional or double standard, silver would always constitute a part of our currency. The channels of circulation would doubtless for a short time, and until the new demand here for silver caused the legal and market relations of the metals to coincide, be monopolized by silver and by such paper as might be convertible into the metals. It would, therefore, not be necessary to resumption to draw gold from Europe or to intercept it on its way there. Even if the gold now in this country, or some portion of it, should be sent to Europe, it would be sent where it would be of the greatest possible service to us, and where it would have a direct influence in raising the prices of our exported products. These prices are not regulated or controlled by the volume or kind of money in use in this country, but by the volume and kind of money used in the countries to which our products are exported. A gold-standard here will force a fierce scramble with Europe for gold. This would straiten our largest customers, diminish their means and disposition to make purchases, and lower the prices of our products in European markets. Last year our merchandise exports to Europe (principally agricultural staples) were $498,558,300, of which Great Britain received $368,900,324. By retaining, instead of sending to Europe, any given sum of gold, the United States would be obliged to export that additional amount of products, and to suffer also whatever percentage of diminution in the prices of $498,558,300 of products such a withdrawal

of the gold-supplies of Europe would occasion. On the other hand, to whatever extent we employed silver as money under the double standard, we could add to the gold supplies of Europe, and proportionally raise the prices of $498,558,300 of our products sold there. It is indeed hardly possible to conceive of a financial policy more clearly and largely ruinous for the United States than one which would raise the value of the money in which our foreign debts must be paid, and decrease the prices in such money of our exported products.

Before the British Royal Commission of 1868 on International Coinage, Jacob Behren, esq., an eminent British merchant and member of the Associated Chambers of Commerce, after answering special and technical questions, was asked, in conclusion, "*if there was anything else he wished to state.*" His reply was (p. 13:)

I would only state that, in my opinion, the general introduction of gold all over the world has been one of the greatest possible blessings to England. I believe that England would be now the very poorest country in the world if the silver standard abroad had been kept up, and gold had not been generally introduced. Gold would otherwise have been very much reduced in value, and we should have had all the gold poured into England. All the debts owing to us would have been paid in the depreciated currency; and, therefore, I believe that England ought to have taken the lead in the introduction of a gold currency abroad. We ought to be very thankful that it has been introduced, and we ought to give every facility to its circulation.

The activity of the advocates in this country of the gold standard has relieved England from the necessity of openly taking "*the lead in the introduction of a gold currency*" into the United States.

The resumption of coin payments.

A transition in this country from paper to coin involves a struggle for the needed coin with other countries, no one of which has any that is not all urgently needed for its own payments, prices, and necessities. The United States will be at the disadvantage of struggling for the coin of which other countries are in possession. It can be successful only by a reduction of prices in this country, not merely to the present level of coin-prices throughout the world, but to that lower level to which they must descend under such a new and great demand for coin as the resumption of specie payment in this country would occasion. This crash in prices cannot be avoided by confining our demand for the metals to the product of our own mines. That product is a part of the current supply of the world, and to subtract from that supply is the same thing in its practical effect as subtracting from the stocks of the world, because the entire current supply is not more than sufficient to keep the existing stocks unimpaired. It cannot be avoided by borrowing coin abroad upon our bonds. No such borrowing will be permitted to reach the gold of the great European banks, and must be confined to the small quantities floating in commercial hands. But the decisive consideration is, that even if gold should be obtained in that way, it could be kept here upon no other condition than a reduction of our prices to or below the coin-prices of the world.

The difficulty of obtaining gold in that way was pointed out in the Senate of the United States January 22, 1874, by Governor BOUTWELL, who had been recently at the head of the Treasury Department. He scouted the proposition that it was possible to obtain even $100,000,000 in gold by the sale of bonds for resumption, or for any other purposes. Referring to a proposition to transfer to this country from London only $21,000,000 in gold, he said:

The Bank of England, foreseeing that there would be an accumulation of coin to the credit of the United States which might be taken away bodily in specie, gave notice to the officers of the Treasury Department of the United States that the power of that

institution would be arrayed against the whole proceeding unless we gave a pledge that the coin should not be removed and that we would re-invest it in the bonds of the United States as they were offered in the markets of London. We were compelled to comply. It was in the interest of the Government that we should do so, because we did not want the coin, and we did want the bonds. But it shows the feeling that animates that central financial power of Great Britain, and it shows a policy on the part of that institution, and of every kindred institution on the continent of Europe, sustained by all the banking and commercial classes, by which, if it were necessary, and this proposition should become a law, the bonds of the United States would be excluded from the stock markets of every financial city. There are in the nine great banks of Europe only $600,000,000 in specie. That specie is held as a reserve with reference to their local business and with reference to the great transactions that take place between the countries of the continent of Europe and Great Britain. I may say, without disparaging the authors of these propositions, that it is useless for Congress to waste time upon legislation looking in that direction. There is another fact known to all. We recovered at Geneva an award against Great Britain of $15,500,000. When this claim was maturing the banking and commercial classes of Great Britain induced the government to interpose, and by diplomatic arrangements through the State Department here, operating upon the Treasury Department, secured the transfer of securities, and thus avoided the transfer of coin. In the presence of these facts, is it to be assumed for a moment that we can go into the markets of the world and purchase coin with which we can redeem four, three, two, or one hundred million outstanding legal-tender notes?

When a drain of gold sets in, the Bank of England raises its rate of discount until it makes money scarce enough, and reduces the prices of commodities low enough, to arrest the drain. This is a necessity for its own preservation, to which it must sacrifice everything else, not excepting its own customers. It is unfortunately too plain how the United States, depending upon the European prices of its commodities for the means to pay its debts, must fare in a contest for gold with the banks of London and Berlin.

And so far as it is true, as it doubtless is to some extent, that our indebtedness to Europe is paid from the sale of commodities elsewhere, the United States, as a debtor country, is interested against such a diminution of the world's measure of values as would result from demonetizing silver, and ought to throw the weight of its example and influence against it.

Every additional employment for gold increases its value, and it must be an unwise policy for the United States, owing large debts held in gold-standard countries, and many of them specifically payable in gold, to make a new demand for that metal, of from three to five hundred millions of dollars, by adopting an exclusive gold standard. The interests to be subserved by such a policy are not American interests, but those of the gold-standard countries of Western Europe, and especially of England, which are to an enormous extent the creditors of the United States and of other parts of the world.

Upon this general statement it is apparent that a struggle for a given quantity of both the metals must be less severe than a struggle for the same quantity of a single metal. The needed quantity is a less percentage of the stock of both metals than it is of the stock of either. The whole world can be drawn upon for both, while only a part of the world can be drawn upon for one; and if the single metal sought for is gold, it is only the smallest part of the world which can be drawn upon.

The actual and legal money of the United States is now, and has been since 1862, paper issued by the Government. It owed its origin to exigencies growing out of the civil war, and to the belief that it was necessary for the preservation of the Government. The law authorizing its issue has been decided by the highest judicial tribunal to be warranted by the Constitution. It owes its value to the demand of the population of the country for money, and not to the indefinite promise to redeem it in coin. The value of each unit or dollar, population and productive

forces remaining the same, depends upon the number of such dollars issued and occupying the channels of circulation. It is not disguised that it will be an extreme hardship to compel those who have borrowed paper, or have become indebted by purchases at paper prices, to liquidate their obligations in coin. It is not a good answer to this to say that if debtors suffer in this way now, creditors suffered in an inverse way fifteen years ago. The answer would be a better one if it could be truly said, as it cannot be, that the debtors who are now to suffer are the same persons who made a corresponding gain fifteen years ago, and that the creditors who are now to gain are the same persons who then suffered a corresponding loss. An injustice to one class of persons is neither remedied nor compensated by inflicting an injustice upon another class. The only ground upon which a resumption of coin payments can be justified is that it is absolutely essential to the public welfare. If resumption is demanded, it is by policy, and not by equity. No man's equities are impaired by a continuance of the present state of things. There is no holder of greenbacks who cannot get as much as he gave for them. If prices have been inflated in this country, it was caused by an excessive issue of legal-tender paper, resulting from the real or supposed necessities of the Government. No particular class can be charged with being responsible for it. Those who now find themselves crushed beneath a load of debts through falling prices brought about by a contraction of the currency cannot be justly taunted with previous recklessness, because they transacted business in prices regulated by forces over which they had no control. As the debtors of the country are not more responsible than the creditors for the suspension of specie payments, the burdens of resumption should not be imposed on them alone. It is claimed that resumption is necessary for the welfare of all. Whatever sacrifices may be necessarily attendant upon it should therefore be, as nearly as possible, equitably shared by all.

Under any plan of resumption there will be hardships and benefits, and they will be unequally distributed. But the plan selected should be such a one only as would subject existing equities and interests to the least possible disturbance. A transition from a standard of paper to one of gold will hardly be claimed to be such a method of returning to coin payments as would best mitigate the unavoidable hardships incident thereto. And so far as it aggravates them, it is an aggravation called for by neither honor nor duty. When the suspension of specie payments took place all obligations were payable in either of the two metals, gold or silver, at the option of the debtor. It would be manifestly inequitable to resume without an option and in one metal. Resumption of specie payments under the double standard is the utmost that can be claimed by creditors at home or abroad. Even such a resumption would not preserve existing equities, but would impair them less than a resumption in the more straightened standard of gold. Even if it were conceded that a gold standard is abstractly the best, and ought ultimately to be adopted, the present time is most badly chosen for such a measure. The sufficiently difficult step from paper to coin should be first taken, to be followed by the step from coin to gold, at some opportune moment to be indicated by subsequent events.

The restoration of the double standard seems to be the most efficacious, and, for the present, the indispensable measure to bring about a resumption of specie payments. To convert all the vast and ramified paper debts of this country into gold debts, and to do this when a similar change in the monetary system of Germany is still uncompleted and in

progress, so that we must be forced into a contest for gold with that rich and populous empire, will involve such ruinous hardships when it is seriously attempted, that it is impracticable under institutions that rest upon the popular will. England was able to do it fifty-six years ago, but the government of that country was then far less a representative one than it is now; and strong as it was, it was substantially revolutionized by the reform bill of 1832, which was forced upon the Government by the people, made desperate by the suffering and misery inflicted on them by the gold policy of 1821. The government of Germany, essentially military, and flushed and strengthened by successes in many respects without a parallel in a recent war, seems equal to the task, but even there popular discontents are threatening and portentous. Neither the English nor the German experience justifies the belief that the policy of an arbitrary and uncalled-for contraction of the currency is practicable in this country. When the law of January 14, 1875, was enacted, requiring coin payments on the 1st day of January, 1879, it was known to but few persons in the United States that silver had been demonetized.. The general knowledge of that fact is, indeed, much more recent than January 14, 1875. The people of this country were in no way consulted in respect to this transcendent measure of making debts solvable only in a single metal, the control of the value of which rests substantially with the three banks of England, France, and Germany, which possess nearly the whole of the disposable stock of that metal.

Notwithstanding the extraordinary supplies of gold since 1848 from California and Australia, supplemented more recently by new supplies of silver from Nevada, a majority of the commercial nations, which were all paying coin in 1848, have since been obliged to suspend such payments. During this time, the metals exported from the suspending countries, together with current supplies, have barely maintained the level of prices in the few countries still paying specie. Supplies from suspending countries have nearly come to an end, as there are but three or four commercial countries left which now maintain specie payments. The question, therefore, seems to be a serious one, whether both the metals together are not inadequate for the advancing wants of the world.

During this time, only one important country, Great Britain, has been able to maintain payments in gold. Such is still the scarcity of that metal, notwithstanding a production since 1848 amounting to $3,215,000,000, that the pending effort of one other important country, Germany, to establish a gold standard, has precipitated a monetary convulsion throughout the world without example in its extent and intensity, and the final results of which it is impossible to foresee, and has inflicted upon Germany itself an industrial prostration which menaces the most serious social and political disturbances.

The attempt of a third country, of the importance of the United States, to establish a gold standard, while the production of that metal is still stationary or declining, will be a ruinous failure, or, if it succeeds, can only do so temporarily and through the destruction of all the productive interests of the country. A detailed statement cannot be made which will show that there is now more than $1,600,000,000 in gold coin and bars in the western world. That the current supply is not more than the current consumption, is shown by the fact that no increase of the aggregate stock since 1865 is anywhere visible. On the 3d of August, 1872, the London Economist published tables proving that the annual excess of gold imports into Great Britain over exports, from 1858 to 1871,

averaged five millions sterling, showing that amount to be needed annually to keep up the British stock. On the 16th of January, 1875, the Economist reiterated its convictions:

> The annual supply necessary for England alone is £5,000,000.

Five millions sterling for that single country is one-fourth part of the present total gold production of the world.

At the lowest calculation $300,000,000 in gold would be required to enable the Government and banks of this country to resume and maintain specie payments in gold. This amount is about 20 per cent. of the entire stock of the western world. No such draught can be successfully made upon that stock without causing a ruinous fall in gold prices everywhere. These considerations should call a halt in the attempt to chain this country to a metal whose supply, without any demand from this country, has been insufficient to prevent the general decline in gold-prices which has been a continuing one for several years and is still unchecked.

The resumption of specie payments in gold is said to be an easy task, because the premium on gold is now reduced to a small percentage. It would be easy if resumption involved only a reduction of commodities from their present valuation in greenbacks to their present valuation in gold. But what is really involved is a reduction from present prices in greenbacks to the prices in gold, which would prevail after gold was enormously enhanced in value by the new demand and competition for it with other countries, which gold resumption in this country would inevitably cause. The premium on gold in greenbacks is small, but the premium on gold in Bank of England notes was still smaller in 1821, when the British resumption of specie payments in gold resulted in a most ruinous reduction of the prices of property and of the wages of labor. The value of gold is not at all the same thing before and after a sudden and new demand for it to the extent of hundreds of millions of dollars.

With the history yet fresh of the British gold resumption, which brought ruin upon a generation, there can be no excuse for repeating the fatal error of David Ricardo, the leader in that disastrous work, that resumption means only an appreciation of paper equal to the difference between paper and gold before the resumption.

In the debates in the British House of Commons on gold resumption, May 24, 1819, Mr. Ricardo said:

> The question is not deserving half an hour's consideration of the House. The difficulty is only that of raising the curreney *three per cent.* in value. And who can doubt that, even in those states in which the currency is entirely metallic, it often suffered a variation equal to this without inconvenience to the public?

William Ward, (Remarks on the Commercial Legislation of 1846,) quoted in Doubleday's Life of Sir Robert Peel, (vol. 1, page 245,) says:

> Mr. Ricardo lived to change his opinion, and shortly before he died (1823) expressed that he had done so. The late Sir W. Heygate was with him, and he said, "Ay! Heygate, you and the few others who opposed us on the cash payments have proved right. I said the difference at most would be only *five per cent.* and you said that, at the least, it would be *twenty-five per cent.*" This is stated on the authority of the late Alderman Heygate. It is a pity that Mr. Ricardo did not, as some atonement to his country for the tremenduous mischief he then, past doubt, occasioned, publish this recantation under his own hand.

If, however, what is intended is not an actual resumption of specie payments in gold, and the actual and constant convertibility of greenbacks and bank-notes into gold, but only the appreciation of greenbacks to a nominal parity with gold, and if greenbacks are to continue to be the ordinary currency of the people and gold is still to be used only for the

payment of import-duties, an immense injury will have been inflicted upon the country without any commensurate benefit. There would still be fluctuations, depending upon the course of foreign trade, in the relative value of gold and greenbacks, and calculations of the greenback price of gold would be no easier at 100½ than at 105. Any resumption not based upon a large and adequate supply of gold would be a delusion and a snare, leaving the country exposed to the changes and chances of commercial and political events abroad. The business of the country would be always disturbed by the fear or fact of suspension. A merely nominal resumption would be a baseless air-built castle, liable to be toppled over by every breeze.

If a parity of the national currency with specie is to be treated as resumption, that currency has already reached not merely a parity with, but a premium of three per cent. above a specie [silver] dollar, which was a full legal tender when specie payments were suspended. To that resumption, the only one that law or equity could demand, there is no present impediment except the interdiction of the coinage of that dollar.

The United States a silver-producing country.

The United States is the largest silver-producing country in the world, furnishing, in fact, rather more than one-half of the total supply. Although there is no good reason to expect any great and sudden enlargement of the silver yield of this country, our argentiferous territory is wide and is being vigorously explored, and the facilities of all kinds for that species of mining are being constantly enlarged. From the nature of things, silver-production rises and falls more slowly than that of gold, but we may expect the occasional discovery of rich veins, and a steady increase of the capital invested in silver mining, unless the value of silver be depreciated by demonetization. And the first impression, at any rate, must be that it is a singular policy for the greatest silver-producing country in the world to co-operate in movements to depreciate the value of the product.

In a report made to the United States Senate, June, 1868, recommending "*a single standard exclusively of gold*," and assigning four reasons therefor, Mr. Sherman, of Ohio, gave the first place to the following:

> The United States is the great gold-producing country of the world, now producing more than all other nations combined, and with a capacity for future production almost without limit.

Mr. Sherman was misinformed as to the facts. The United States have not produced as much gold as all other nations combined in any year since 1850. Its production in 1868 was $48,000,000, and that of all other nations $72,000,000. But if the supposed fact in 1868, that the United States produced more gold than all other nations, was a good reason for making gold the sole money standard, the real fact that the United States now produce more silver than all other nations seems to be at least as good a reason for retaining that metal in its old place in the double standard.

It is said that, although we produce silver largely, we produce gold quite as largely, and that it may be some time before there is such an excess of silver-production as to cause a material depreciation in its value.

The suggestion made is, in substance, that if we lose by the depreciation of silver resulting from its demonetization, we shall gain as much or more, or, at any rate, some considerable offsetting advantage by the

appreciation of gold. That seems to be true if we do not look beyond the direct gain of the rise in the value of the gold that we produce. But as, in the case supposed, gold is to be the measure of the value of everything else, a rise in the value of gold means a fall in the prices of all commodities and all forms of property. And as gold measures commodities and property so immeasurably exceeding itself in value, no rise in its value can be a compensation for the losses it must cause. If no better indemnification is proposed for the ruin of our silver-mines than such an appreciation of gold as will reduce the prices of property of every description to a ruinous level, aggravate the burden of debts, and arrest the industrial progress of the human race, the indemnification is an immeasurably greater calamity than the loss for which it is proposed as a compensation.

The trade relations of the United States with Europe and with other parts of the world compared.

It is often said that we should conform our money standard to that of the commercial nations—that is to say, of England and Western Europe—rather than to that of Asia, Africa, and Central and South America; and that we should have the gold standard because England and Germany have it, and because the same standard will, it is predicted, be adopted by the other nations of Western Europe.

This suggestion involves two ideas, both erroneous: *first*, that trade with commercial nations is specially advantageous and more worthy of cultivation than trade with non-commercial nations; and, *second*, that trade between commercial nations is facilitated by uniformity in their money standards.

The traditional ideas of mankind have certainly always been that it is the greater or less degree of commerce with the East which determines the commercial position of nations. It is a familiar and general belief that it was the control of the trade of the Orient which aggrandized Tyre and Alexandria in ancient times, the Italian cities of the Middle Ages, and, after a change of the route to the East by the doubling of the Cape of Good Hope, first Portugal, then Holland, and finally, and to the present days, England.

It was in pursuit of the prize of the oriental trade, to be reached by a new route to the Indies, that Columbus discovered America, which he did not seek. It was the control of the oldest route to the Indies that fired the ambition of Napoleon and suggested his Egyptian campaign. It is because England knows that its commercial supremacy depends upon Asiatic trade and upon keeping open the road to India, that it made the sudden purchase, a few months ago, of an interest in the Suez Canal, at a cost of $20,000,000. The danger that the threatened war between Russia and Turkey will not be confined to those two countries, is the certainty that England will defend its connections with Asia against all comers, and especially against any territorial advance of Russia which may menace them. When that vital point is assailed, England will bristle with war, to be waged with all its forces by land and by sea, with or without allies, tooth and nail, to the last man and to the last pound sterling.

Being in the same general climate, on the same plane of civilization, and with a near equality in the perfection of the industrial arts, the western nations of Europe seem to be naturally our commercial rivals rather than our customers. And this is so, with the large exception

which arises from our ability to supply certain raw products and agricultural staples.

Describing our situation summarily, it may be said that our commercial intercourse with Western Europe consists of two parts:

First, the export of articles indispensable to Europe, such as cotton, the cereals, tobacco, and the products of animals, a trade which needs no stimulation or favor of any kind.

Second, the import from Europe of manufactures. This is a trade which all parties and the representatives of all shades of economical opinion in this country wish to see steadily diminished and eventually terminated. The reasons which conduce to this uniformity of desire are very diverse, as also are the modes proposed to accomplish the object sought. Some propose protective tariffs and high duties as the best means. Others maintain that the better if not the only way to keep out European manufactures is by the production in this country of superior articles at lower prices, and that this is only possible with free trade or simply a revenue tariff and cheap raw material. But, by whatever way it may be reached, a diminution, tending always to an extinction of imports from Europe, is universally desired in this country.

It is in trade with other parts of the world, in less advanced stages of civilization, or with essentially different systems of civilization, or with essentially different raw products resulting from marked diversity of climates, that we find the natural outlets for our manufactures, and in many cases the opportunity for a mutually advantageous exchange of native productions. It is not perceived that that trade can become too large. All interests and opinions favor its expansion, and, unlike the trade with Western Europe, its existence and extent depend upon the wisdom and vigor of our efforts to secure and increase it. Our trade with England would be but little affected if we should be entirely passive in relation to it. With China, on the other hand, we have no trade which we do not actively seek. Commercial nations will seek after our trade. We must ourselves seek after trade with the non-commercial nations.

It is by no means clear that trade between nations is either increased or facilitated by a concurrence in their standards of money. But even if it were so, the double standard would meet all requirements better than the single standard. It would tend to keep constantly available a sufficient stock of both metals for the trade of either gold or silver standard countries.

However it may be in respect to trade with non-commercial countries, it has never been shown that diversities of money, however arising, whether from single standards of a different metal, or from systems of irredeemable paper currency, are any hinderance to trade between commercial countries. Whatever the moneys of such countries may be, they are always interconvertible at known and not widely-variant rates. There is no property on sale in London for which the holder would refuse payment in silver or in greenbacks at the current rates of exchange; and there is no property on sale in New York for which the holder would refuse payment in Bank of England notes at the current rates of exchange. Greenbacks are not a legal tender in London. Silver is not a tender there. Neither are American gold eagles, and both greenbacks and silver are as readily convertible into sterling money as gold eagles are. The irredeemable paper currency existing in this country since 1862 has not obstructed its European trade in any degree whatever. The trade of England with commercial countries was not obstructed when it had an inconvertible paper currency from 1797 to 1821. The paper

moneys of Russia, Austria, Italy, France, and Brazil, although differing greatly in their value relatively to gold and silver, are no hinderances to their trade with each other, with the United States, or with European countries having metallic standards. Various nations in Europe, in close proximity to each other, or having large intercourse with each other, have had different single metallic standards, without experiencing any inconvenience from that circumstance. The single silver standard existed in Holland from 1847 to 1875, and in Germany from 1857 to 1871, but the large trade of both with England, having a single gold standard, was carried on during those periods with undiminished facility.

The long and still continuing difference of currency between England and its greatest dependency, India, is a striking illustration of the fact that trade between distinct peoples is not obstructed by the difference in their money standards. Both are parts of one empire, and the coinages of both are impressed with the head of the same ruler, but the British sovereign is not a good tender for a debt in Calcutta, nor is the Indian rupee a good tender for a debt in London. Cases are said to have occurred of such extreme financial pressure in both those cities that loans of money, that is to say, silver, have been refused at Calcutta on a pledge of sovereigns, and that loans of money, that is to say, gold, have been refused in London on a pledge of rupees. No difficulty has ever arisen in the immense trade between Great Britain and India from this difference of currencies, although this is doubtless due in part to the exceptional circumstances which have given to England a large and constant supply of silver, notwithstanding that its standard money is gold.

A fact, less striking in some aspects, but more so in others, is the difference in the actual currencies of the Atlantic and Pacific States of this Union. The difference is not made by law, but is a matter of choice on the part of the people of the Pacific slope. They judge that it has advantages for them, and both they and the people on the Atlantic perceive that it is not in the least degree obstructive to their mutual intercourse. There is no more difficulty in translating the greenback prices of New York into the gold prices of San Francisco, than there is in translating pounds avoirdupois into French kilograms.

A distinguished writer, J. E. Cairnes, professor in the University College of London, in a recent work (1874) on Political Economy, says:

"It appears to me that the influence attributed by many able writers in the United States to the depreciation of the paper currency, as regards its effects on the foreign trade of the country, is, in a great degree, purely imaginary. An advance in the scale of prices, *measured in gold*, in a country, if not shared by other countries, will at once affect its foreign trade, giving an impulse to importations, and checking the exportation of all commodities other than gold. A similar effect is very generally attributed by American writers to the action on prices of the greenback inconvertible currency. But it may easily be shown that this is a complete illusion. Foreigners do not send their products to the United States to take back greenbacks in exchange. The return which they look for is either gold or the commodities of the country; and if these have risen in price in proportion as the paper money has been depreciated, how should the advance in paper prices constitute an inducement for them to send their goods thither? The nominal gain in greenbacks on the importation is exactly balanced by the nominal loss when those greenbacks come to be converted into gold or commodities. The gain may, in particular cases, exceed the loss, but, if it does, the loss will also, in other cases, exceed the gain. On the whole, and on an average, they cannot but be the equivalents of each other."

The trade between commercial countries is an exchange of commodities, made directly or indirectly. The settlements in money are trifling, temporary, alternating, and are always made in the money of the country which has the balance of trade for the time being in its favor. The office of money in the intercourse of commercial countries is merely that of measure, description, and reckoning. Diversities of moneys can occasion only trifling inconveniences, similar to those arising from diversities of weights and measures, and of length and capacity. The inconveniences arising from a diversity of languages are very much greater. All these diversities exist, and are likely to exist, and none of them produce any direct and material effect upon commerce. The trade of this country with Europe is not affected by the money in use here, any more than the foreign trade in cotton cloths would be affected by an elongation of the yard from three to six feet, which would simply reduce the number of yards and increase the price per yard, in an invoice of that commodity. It is not in its relation to European trade that the question of the money of the United States is of any importance. It is in its internal and domestic effects, in its effects upon the equity of contracts, and upon the real burden of an incomputable mass of debts, and upon productive interests and the wages of labor, that the money question becomes overshadowing and transcendent.

Trade with the non-commercial nations whose money-metal is silver, and especially with China and India, whose exports always exceed their imports, presents somewhat different conditions. It has been claimed by very high authorities, as an advantage of the double standard, that it tends to keep on hand an available stock of silver, and thereby facilitates trade with such nations.

The French Baron Rothschild insisted strenuously upon this point in his evidence before a French monetary commission in 1869. He said that France frequently needed silver, as to pay Russia for wheat when the home crop failed, and always had it, because the double standard kept it in the monetary stock, but would not have it if the gold standard should be adopted. His language was:

> If the coinage of silver was suppressed in France, less would come here, as it would no longer be attracted by the facility which commerce now has of converting it into money. It is this power of converting the bullion into money which attracts silver to France, and causes it to remain, even when the price is for the moment too high to admit of its being coined.
>
> The circulation of silver serves as a reserve, when, by reason of the failure of the harvests, it is necessary to buy corn in countries in which, as in Russia, the current money is silver. If that metal should be reduced to merchandise in France, as it is in England, commerce would have less facility in procuring it, and the reserve of it in the country would disappear.

And the event has shown that now, only a few months having elapsed since the coinage of silver was suspended in France, not a single ounce of bar silver can be purchased in Paris.

It is only from peculiar circumstances that England has suffered so little from this difficulty. It is said of London that it is such a great commercial center that everything may be found there at any and all times. The demand in London for silver for transmission to the East is large and constant, and, as a consequence, nearly all the silver supplies of the world have been, until quite recently, sent there for sale. Silver is, generally in sufficient stock there to meet all demands, although at exceptional periods, as when large amounts were required to balance the large English imports of cotton from India during our civil war, considerable difficulty was experienced in obtaining it. But, with all these special facilities of England, Sir Robert Peel, in framing the law of 1844,

which still governs the Bank of England, provided that one-fifth of its bullion might be kept in silver, his language being that this "*was a proper remedy for the inconvenience of our standard differing from that of other nations.*"

The first impression might be that the United States, producing silver so largely, would always have it on hand in sufficient stock, even if the gold standard should be adopted. But miners, of course, sell it as fast as they produce it, and as nobody can keep it as money it would pass at once to foreign purchasers. A remarkable proof of this is the statement in the recent report of the Director of the Mint, that there is not now in this country, exclusive of plate, manufactured articles, and subsidiary coinage, more than the insignificant sum of three millions of dollars of silver.

Our trade with what are called the non-commercial countries, and especially with Asia, all of them using silver, and most of them using it as a sole currency, considered with reference to either its actual or possible magnitude, presents aspects of prime interest. It is in that trade mainly that we must look for outlets for our manufactures. It is on the field of that trade that we must contend for the palm of commercial supremacy with our European rivals, and the contest is too close to admit of the heedless throwing away of any advantage. We must favor intercourse with Mexico and South America, by being in a condition to give them the best prices for all the results of their mining industry, and with Asia, by the abundant and constant possession of the metal which will command its products.

All the known great deposits of silver in the world are found on this continent. It cannot be obtained without an outlay of capital and labor, but on this continent, like the fruits of agriculture, it can always be had when capital and labor are applied to its production. This is not true of gold, either on this continent or elsewhere. Everywhere along the vast range of the Cordilleras, from Cape Horn to Alaska, are to be found deposits of silver-ores. Nature has thus placed in American hands an everlasting supply of the metal which Asia has always required. To demonetize silver ourselves, and thereby to use the weight of our influence in the direction of demonetizing it everywhere, is to throw away gratuitously one of the special and distinguishing commercial resources of the New World.

The comparative effects of the double and single standards upon the stability of the money-market in the United States.

It is important to consider whether the steadiness of the money-market in this country will be best secured by the exclusive use of the money of England, or by using a money of which one of the constituent elements is the currency of the non-commercial nations.

England has been conspicuous, certainly for two generations, for the frequency and violence of its commercial, banking, and monetary panics. The rate of interest of the Bank of England was changed two hundred and twenty-three times in the twenty-seven years beginning with 1847, and the range of fluctuation was from 2½ to 10 per cent. It is now 2 per cent. In the one hundred and twenty-two years preceding 1816, when the gold standard was adopted, there were only sixteen changes, and the rate never fell below 4 or rose above 6 per cent.

The frequently recurring crises in the London money-market have been ascribed by high authorities to the existence of the narrow basis of gold.

In testimony given before a parliamentary committee in 1828, Alexander Baring said:

A sudden change from peace to war, a bad harvest, or a panic year arising from overtrading and other causes, immediately impose upon the Bank of England, which is the heart of all our circulation, for the purpose of protecting itself, to stop the egress of specie; sometimes even to bring large quantities into the country. These indispensable remedies are always applied with more or less of restriction of the currency and consequent distress. * * * No care or prudence can enable the great bank to avoid occasional resort to those measures of defense. * * * It is evident that the bank, wishing to re-enforce the supply of specie, can do so with infinitely increased facility with the power of drawing gold and silver, than if it were confined to one of the metals. * * * The greater the facility of the bank to right itself, the less frequent will be those sudden jerks and changes so fatal to credit and commerce.

Similar views were expressed in a pamphlet issued by Lord Ashburton (of the house of Baring) after the crisis of 1846.

A more general reason for the instability of the London money-market is, that as the English surpass all other people in opulence and commerce, so do they surpass all other people in the magnitude of their commercial and banking credits. The credit system, which is a part of modern civilization, and which has grown with its growth and strengthened with its strength and is one of its glories and necessities, like most other beneficent agencies, brings with it some disadvantages. One of the greatest of these is its tendency to produce commercial and financial crises, which the wit of man has as yet found no sufficient means to prevent.

In contrast with the violent monetary fluctuations of England, and the less violent fluctuations of the other highly-civilized nations of Western Europe, are the stationary conditions and the repose of the non-commercial nations, and especially of Eastern Asia. There may be nothing praiseworthy in this quietude, but it is none the less an existing condition, and it is one of the consequences of this condition that Asia never disturbs the world with bank panics, or with any "*jerks and changes*" in its demand for silver, which is its money. It takes more or less of it, only as the moderate fluctuations of actual commerce enable it to command more or less.

Of all the reasons for adopting the gold standard, this reason to persuade, that it is the standard of England and may become that of all Western Europe, should dissuade us most. We have causes enough of fluctuations in our own internal condition, and in the sanguine and enterprising character of our people, without adding to them, if we can possibly avoid it, that of an identity of currency with a quarter of the globe most subject from the nature of things to currency crises and disorders.

It was this view which governed the statesmen of Holland, when they adopted the single standard of silver in 1847. Their reasons, as given in a letter of S. Vissering, professor of political economy in the University of Leyden, published in the Journal des Economistes, (January, 1876,) were—

Because England, which then almost alone had the standard of gold, was subject to frequent monetary crises, and that by adopting the same rule we should run the risk of being involved in those crises.

Because the mass of silver in circulation, and the conditions of the production of that metal, gave it a fixity of value to which gold could not pretend.

The views thus held in Holland were expressed in 1871 in the following more energetic language of an English economist, (London Statistical Society, vol. 34, page 352:)

England is the peculiar seat of monetary crises, just as Egypt is of the plague and India of the cholera. These monetary plagues are the bane and opprobrium of our country.

In addition to the irregularities of its production, gold lacks sufficiency of mass to give it steadiness. It is necessarily so subject to "*jerks and changes*," that to use it as an exclusive standard must reduce all business to gambling. No merchant can buy goods with gold to be sold for gold a year afterward, or even a few months afterward, without being subjected to a heavy risk. If he covers the risk by extra profits in the nature of insurance, he must impose a heavy tax upon those who deal with him. Whoever enters into a contract to pay gold in one, two, or three years cannot, by any possibility, foresee what its value may be when the contract matures. Gold, when unsteadied by silver, is as unstable as water. The long experience of England has shown it to be one of the most fluctuating, treacherous, and dangerous currencies ever devised. The present head of the British ministry said, three years ago, that England did not become rich by adopting gold, but adopted gold because it was already rich. He might have added, that it was only the great wealth acquired by England under a sounder and better system which has enabled it to endure the mischiefs of a currency which has made it "*the peculiar seat of monetary crises, just as Egypt is of the plague and India of the cholera.*" If England was not the creditor of all the world on gold contracts, and if that consideration did not really dominate over everything else in determining its policy, it would abandon a system which is its "*bane and opprobrium.*"

It is one of the admitted advantages of our present system of irredeemable paper, that it shelters us from the recurring demands for gold by the Bank of England. The London revulsion of 1866, when one banking-house (Overend & Gurney) went down with liabilities of ninety millions of dollars, was scarcely felt here. With a currency of gold, or of paper convertible into gold, we should feel instantly every change in Europe, and especially in England. We should not altogether escape that influence with the double standard of gold and silver, but at any rate, with such a standard, one part of our currency would be secure from European perturbations.

The dollar and the pound.

It was suggested in various forms of language by some of the witnesses examined by the commission that the British gold sovereign, or pound sterling, is for the world the generally accepted monetary unit of value, and is the best known and most widely used form of money, and that this is a reason for the adoption of the single gold standard by the United States. And in this connection it is said that even our purchases in the East, when made with money, are not made by sending silver, but by sending bills of exchange, drawn on, accepted in, and payable in London, and in the money of London. And the inference is drawn that such bills have a world-wide acceptability, in consequence of the particular currency in which they are payable. But, manifestly, the availability in distant regions of such acceptances depends wholly upon the credit of the acceptors, and in no degree upon the money in which the bills accepted are expressed.

Such acceptances were equally available when pounds sterling signified Bank of England notes, as they did from 1797 to 1821, as at present, when they signify gold sovereigns. The availability of such acceptances depends upon the fact that London became early the central point of the wealth, banking, and commerce of the world, and has banks, bankers, and commercial houses, the solidity of whose credit is everywhere

known. The pre-eminence of London in these particulars, fairly won and fairly maintained by solid traits of national character, must be admitted to still exist, but it is weakened sensibly by the advancing rivalry of New York, and may soon be by that of San Francisco. "Who shall say," to quote the words of Governor Morgan, (report to United States Senate, June 9, 1868,) "that the course of trade may not make an American city, New York or San Francisco, the center of exchange, and confer upon us the advantages so long enjoyed by European capital?"

In the United States Senate, March 9, 1870, the pending proposition being to authorize the refunding of the national debt in bonds payable in London, Paris, Amsterdam, and Berlin, in pounds, francs, and thalers, the late Mr. Sumner opposed it, exclaiming:

I cannot forget my own country, nor can I forget that great primacy which I hope to see her assume in the money-markets of the world. New York is our natural money-center. Why should we revolve about European money-centers? Let us keep our own center here at home.

There may be merchants, wedded to an accustomed routine, who believe that it is only through the circuitous and clumsy expedient of a bill of exchange on London that America can pay silver in China. But this will not be credited by the active men of the present generation, who can better realize that we have now a great and opulent city on the Pacific, within thirty days' steaming of Japan and China, which is the gateway of our silver mines, and which would hold their products always in large stock if silver were remonetized. London, at any rate, realizes it, and it is stated in a recent number of the Economist, of that city, that "London merchants now pay for their tea and spices by telegraphing to San Francisco orders for the shipment of American silver." And if it is not true to-day, the time is not distant when it will be true, that to whatever extent commercial and bankers' acceptances are used by us in the East in lieu of coin, they can be obtained in San Francisco more advantageously than in London. Some of the greatest banking-houses in Europe, including the Messrs. Rothschild, are already represented by agencies in San Francisco.

It is no disparagement to the pound sterling, which represents the opulence and good faith of English merchants and the unvarying integrity of the English coinage, to say that the silver dollar has been longer known, is more widely used, and is more familiar to mankind than any other coin of either metal. It was in common use in 1785, when the American Congress adopted it as the unit of account. The credit of our decimal money is due to Mr. Morris, but it was Mr. Jefferson who proposed the dollar as the unit of account, and, in his paper addressed to Congress, he assigns as the reason, that the Spanish silver dollar was "*familiar to the minds of the people, and already as much referred to as a measure of value as the respective provincial pounds*," although our British connection had been so recently severed. We had come by the dollar naturally, from our proximity to and growing trade with Spanish America. It was through Spain, as the sovereign of the silver-mining regions of this continent, that the world received its metallic supplies for centuries, and that the silver dollar became everywhere known. But it is said, and appears to be true, that Spain received the dollar from Austria during their union under Charles V, and that it was first coined from the silver of the Bohemian mines as the "thaler," which name it yet bears in Germanic countries.

If there are Americans who are gratified to concede that the pound sterling is and must remain the world's unit of monetary value, there

are Englishmen who reluctantly yield the palm to the silver dollar. Jevons, discussing the question of the probable international unit of the future, says (Money and Exchange, page 170) of the Spanish and Mexican silver dollars, that "these coins have for a hundred years past been received by tale almost without question in most parts of the world." On page 172, he says that "the Americans might have much to say in favor of the dollar. It corresponds to the coins which have for two or three centuries been most widely circulated and treated as units of account, so that there is much weight of experience in its favor." And again, on page 179, he says that "the fact that the dollar is already the monetary unit of many parts of the world gives it large odds."

For us, this question was settled by our revolutionary ancestors in 1785, and by the mint act of 1792, which bears the approving signature of General Washington. And it is a noteworthy fact that General Washington is connected with the silver dollar, not only by his approval of the act of 1792, but by his indorsement of the memoir of Mr. Jefferson which led to the adoption of the silver dollar unit in 1785. (Washington's letter to Grayson, in Sparks' Life of Washington, vol. 9, page 125.) The silver dollar has thus the sanction of the solid and practical sense of General Washington, added to that of the learning, genius, and philosophy of Mr. Jefferson. It is as much a tradition of the United States as their national military air, or their national flag, and it is a policy as well as a tradition.

Money in shrinking volume the primal cause of the present universal commercial and industrial depression.

The real cause of the present universal derangement of commerce and industry must be ascertained before the proper remedy can be devised. The causes assigned are various and contradictory. Many of them never had any existence in fact. Others are inadequate or absurd in themselves, or by reason of being confined to narrow localities or special interests, cannot have produced a mischief which reaches all places and all productive interests.

Overproduction is one of these alleged causes, although food, clothing, houses, and everything useful to mankind, are and probably always will be in deficiency, as compared with the needs for them. The constant effort of the human race is and ought to be to multiply production. The aggregate effective demand for products, that is to say, the aggregate demand accompanied by an ability to purchase, always increases with production. Supply and demand mean substantially the same thing, and are nothing but two faces of the same fact. Every new supply of any product is the effective basis of a new demand for some other product. The capacity to buy is measured exactly by the extent of production, and there is practically no other limit to consumption than the limit of the means of payment. Overproduction of particular things may occur, but that is soon corrected by the loss of profits in producing them. Overproduction in the general and in the aggregate is impossible. The contrary opinion will be held only by those who regret the discovery of the steam-engine, the spinning-jenny, and the sewing and thrashing-machines, and who believe that while mankind have the skill to devise methods of increased production they have no capacity to provide for the distribution of the products of industry. Production is the sole and only source of wealth, and in fact is but another name for wealth. Overproduction must therefore mean superabundant wealth and the idea that either superabundant wealth or superabun-

dant facilities for producing it can be the inciting cause of rapidly spreading poverty is repugnant to the common sense of mankind. All reputable authorities concur in treating the idea of a general overproduction as the idlest of fancies, and wholly unworthy of serious notice.

Too many railroads are said to have been built, when it is clear that there is an urgent need for more. Undoubtedly a too rapid construction may create an abnormal demand for and rise in the price of the special materials required in railroad building and may possibly cause an abnormal advance in the interest on money by absorbing too much floating capital in a fixed form, but such evils are self-corrective. Railroad-building will always halt under such circumstances until the cost of materials and of capital ceases to be excessive. The tendency of industry and enterprise to take profitable directions, and to withdraw from those which are found to be unprofitable, needs no other regulation than to be let alone.

Money sunk in railroads prematurely built and at present unproductive is another cause assigned for the existing condition of things. But the loss resulting from labor misdirected is no greater than the loss resulting from the non-employment of labor. One single year of the loss now sustained through the stagnation of industry, caused by falling prices, is a calamity of greater proportions than the total loss from all the badly-planned or unfortunate railroad enterprises of a decade. If it were really true that the labor lost in unproductive works is the cause, or one of the principal causes, of the present distress, the future must be dark indeed for this country, which has had an army of unemployed laborers since 1873, that is still being recruited as industries break down, one after another, under a shrinking volume of money and falling prices. If a few years of the misdirected labor of one hundred, or even five hundred thousand men, has brought on conditions under which three millions are forced to be idle, the evils to come hereafter from the present idleness of that vast number must be incalculable and self-perpetuating. They must prove an endless chain freighted with a constantly accumulating volume of disaster, a Pandora's box with hope left out.

That species of speculation in property and securities which is described as reckless and unsound is said to be one of the causes of the present distress. But even in gambling there can be no more lost than there is won, and the material damage to the community cannot exceed the worth of the time of those engaged in it. The rating of property at higher or lower prices could not result in a destruction of the property, or even in the impairment of its productiveness. It would be deplorable if it were true, but happily it is wholly untrue, that the prosperity of the prudent and industrious is at the mercy of gamblers, of whatever species or degree.

A condition which is universal cannot be explained by local facts, such as the American civil war, the Prusso-French war, or the sudden and great rise in the price of English coal and iron in 1872–'73. The last fact, and the commercial and financial speculations in England connected with it, are much insisted on by English writers as the causes of the present state of things. They forget that the panic and depression in England in 1866–'67–'68 revealed the existence there of an amount of reckless financiering, of frauds in railroads, and of rottenness among bankers and merchants far greater than existed either in England or elsewhere in 1872–'73. The measure of comparison is accurately enough indicated by the Collie failure of 1875 for $9,000,000, and the Overend & Gurney failure of 1866 for $90,000,000. That the British financial

collapse of 1866 was not felt in the United States is a matter of familiar knowledge in this country. But it was not even felt in Continental Europe. There is British authority (Journal of Statistical Society of London, vol. 34, page 243) for saying that "*not even a tremor of the crisis of* 1866, *so terrible for England, passed across the British Channel.*" The mischief was confined to England, because there was not then as now everywhere at work the dry-rot of a contracting money.

Devastations of war in the years immediately preceding 1873 are assigned as one of the conspicuous causes of the depression, and oftentimes by the same philosophers who, by a contrary process of reasoning, assign overproduction as the principal cause. These devastations are described as great enough to have arrested the production and prevented the accumulation and distribution of wealth. In truth, from the French campaign in Italy, terminating (1859) at Solferino, to 1873, there was no war of serious magnitude except the American civil war, and even this war scarcely retarded the increase of national wealth in the United States. The peace of Europe during that entire period was substantially unbroken, and its unprecedented advance in prosperity, following the California and Australian discoveries, was checkered by no pause. The Prusso-Austrian war was an affair of days. The Franco-German war was an affair of weeks, and was only protracted to months by a siege. The war between Austria and Italy consisted on the land of one single day's fighting, and on the sea of one naval skirmish. These several events had political consequences that were momentous, but were so confined in space and time that their effects on commerce and industry were obscure and unimportant, indeed much less important in these particulars than were the effects of the revolutionary struggles in Europe in 1848–'49. The assignment of the devastations of war as a cause of the present distress is as absurd in its logic as it is erroneous in its assumptions of fact. The financial catastrophe of 1873 came, not because the progress of mankind had been previously checked either by war, or other causes, but on account of the precisely contrary fact, that this progress had continued unchecked after the supply of metallic money had become stationary or declining.

It is sometimes said that what is being witnessed is a coming down to solid bottom in prices. But the question of prices is a question of the standard in which they are measured. Wages at $2 per day, with a currency of gold and silver, are as much on solid bottom as they would be at a lower range with a currency of gold alone, and what are called bottom or bed-rock prices when the standard is gold would in their turn be described as inflated if a new policy should decree that money should consist only of diamonds. Prices are nothing but the expression of the relation between money and other things, and in the end can never express it otherwise than correctly, and when so expressed prices are on the bottom wherever that may be, the range of prices, whether higher or lower, depending on the relation between the volume of money and other things.

It is maintained by many that existing evils are the results of a loss and lack of confidence, and that the sufficient remedy would be found in its restoration. On all occasions they portray in glowing phrase the abounding prosperity which would follow if moneyed and other capitalists would freely exhibit confidence by inaugurating industrial and commercial enterprises. But it is to be observed that they content themselves with recommending confidence to others, while they are careful not to make a practical exhibition of any on their own part. They seem, in short, to be unconsciously influenced by the view that

while they might profit by the confidence of others, confidence on their own part might involve them in losses. The real mischief is not the lack of confidence, but the lack of any legitimate grounds for confidence, and there neither will be, nor ought to be, any revival or extension of confidence so long as the volume of money continues to shrink and prices continue to fall.

Under existing conditions, if by any possibility confidence could be inspired, the consequences would be baneful rather than beneficial.

Similar conditions to those which preceded the panic of 1873 exist in the main to-day. The volume of money is shrinking absolutely and relatively to other things, although perhaps not as rapidly as between 1865 and 1873, and the prices of property are gradually shriveling. The principal difference is that since 1873 the credits extended by money-eyed institutions have been largely curtailed or cut off altogether, and consequently the material of which panics are made is not in as great abundance as then. The collapses which are constantly occurring do not make as much noise nor attract as much attention as the explosion of 1873, because they do not occur simultaneously nor conspicuously with public institutions, such as banks, as in 1873, but nevertheless they are constantly taking place in all parts of the country in increasing numbers. All that is necessary to change this monotonous rattle of isolated collapses into a general crash is to restore confidence and credit. As the collapse of 1873 is generally attributed to an overextension of confidence and credit, a restoration of confidence now, when the conditions are the same, must pave the way to a new collapse, and would be placing a dynamite for future explosions under the foundations of business.

It is very necessary to understand in what particulars confidence has been lost before deciding that its restoration is either possible or, under existing conditions, even desirable. It has not been lost in the intrinsic value of real estate or of any useful thing. It has not been lost in the fruitfulness of the soil, or in the ingenuity, industry, or integrity of the people, the stability of the Government, or in the productive powers of labor and machinery. Confidence has not been lost in anything except the possibility of maintaining prices while the volume of money is being shrunk by existing legislation. Confidence has been lost that capital invested in productive enterprises can be returned with a profit, or even intact, to the investors. Its restoration while present conditions remain is impossible, and would work mischief if it were possible.

It is stoutly affirmed by many that the present stagnation is the result of uncertainty as to the future value of the paper money of the country. If there were any such uncertainty, and if there were, consequently, possibilities of a rise as well as of a fall in prices, the adventurous temper of the business men and the people generally would cause active investments and purchases, as was illustrated during and immediately after the civil war, when such an uncertainty really existed. The true cause of the stagnation is to be found in the opposite fact. Instead of it being an uncertainty as to the future value of paper money, it is the absolute certainty that, under present legislation, paper money must still increase in value and that prices must continue to fall.

The statement that there was any general rise of prices during the two or three years prior to the crisis of 1873 is wide of the mark. The highest range of prices attained was in or about 1865. From that year on to 1873 there was a general tendency to a fall, but such was the momentum which extraordinary metallic supplies had previously given to them that they continued comparatively firm for seven or eight years

after their metallic support had become insufficient, and after they were left to stand in part upon the treacherous foundations of credit. In 1873 those foundations suddenly gave way, and prices, property, banks, and business houses went down with a crash. In this country, as is familiarly known, it was only by mortgages that the nominal prices of real estate, the largest and principal description of property, were sustained during 1871–'72–'73. Even by this means it was only in rapidly-growing cities and towns that real estate prices were kept up, while during the same period, and for several years immediately prior thereto, the prices of agricultural lands were abnormally low. Without doubt, the prices of a few commodities were high in 1871–'72–'73, but only from exceptional causes. Iron was abnormally high in those years from a sudden expansion of railroad building, and this led to great speculations, notably in England, in iron and coal. But the high prices of these articles do not prove a high level of general prices in those years any more than the high prices of cotton proved a high level of general prices during and immediately after the American civil war. The tendency of prices was already downward in 1873 when their fall was hastened and intensified by the demonetizations of silver by Germany and the United States.

The true and only cause of the stagnation in industry and commerce now everywhere felt is the fact everywhere existing of falling prices, caused by a shrinkage in the volume of money. This is in part the misfortune of mankind, as the mines have failed for several years, under energetic working, to yield the precious metals in quantity sufficient to keep pace with the increasing needs of the world for money. But it is in part due to the folly of mankind in throwing away a benefaction of nature by discarding one of the precious metals. Existing evils date with that folly, which precipitated and now enormously aggravates them.

Many learned and excellent persons and associations of persons in all parts of the world, whose instruments of observation seem to have been adjusted for the examination of remote objects, and, consequently, unfitted for and a hinderance to the inspection and examination of anything near at hand, have furnished many far-fetched, incomprehensible, and impossible causes for existing evils, which agree in nothing except their remoteness. They have seen through a glass darkly or they would have discovered that the cause was all around and about them; that it is the same cause that has invariably preceded and accompanied similar evils. They would have seen that money in shrinking volume was engaged in its legitimate work of ruin. This is the great cause. All others are collateral, cumulative, or really the effects of that primal cause. Practical men see what the mischief is and they all see it alike, and, without formulating their ideas in set words and phrases, they all state it alike. Capitalists, large and small, give one, and only one, reason for refusing to invest in productive enterprises. Uniformly and universally the reason given is that prices are falling and may continue to fall, and that money is the best thing to get and hold while that state of things continues. All can see that prices have fallen and are falling, although they may disagree, or may not trouble themselves to form any opinion as to the cause of the fall. And all can see, and do see, that it is falling prices which cause the stagnation of business, with all its necessarily attendant circumstances of an increasing pressure of debts, of decreasing employment and wages of labor, and of diminishing consumption. Falling prices is only another expression for an increasing value of money, and those who desire still further to appreciate the value of money by contracting its volume, desire

still further to reduce prices, and still further to widen and deepen the gulf between money-capital and labor. Money capital is the fund out of which wages are paid. Capital can only fructify through the employment of labor, and labor is helpless without capital. It is in vain to advise those who depend upon their daily wages for their support, and who possess no capital but their willing hands, to change their places of residence and engage in agricultural pursuits. Even had they the means to emigrate, which most of them have not, they would still have to be supplied with seed, implements, and animals, and with support from seed-time to harvest. It is still more plainly idle to advise them to engage in any species of handicraft or manufacture on their own account. In modern times human labor is available only in connection with machinery and appliances. A policy which tends to a constant fall of prices, and therefore compels capital from the justifiable instinct of self-preservation to withdraw from production, is a policy which reduces laborers to a worse condition than if money were wholly abandoned and the system of barter were re-established. The condition of the laborer is as bad when money-capital is not employed as if it did not exist. The effect of falling prices is the same upon the smallest capitalist as upon the largest. The hope of gain is for all of them the only inducement to take the risks and labor of enterprises, and they will all prefer to consume their accumulations rather than to invest with the certainty of losing them. They will, of course, consume them as slowly as possible, and to that end will reduce their expenditures within the smallest possible limits. Laborers thrown out of employment must in some way have a bare subsistence, but there can be no other sources for it than the scanty earnings of such as are employed, and the capital in existence, which cannot refuse food to the starving.

That shrinking money and falling prices are the cause of existing evils, was pointed out eight years ago by the London Economist, in its review (1869) of the previous financial year. It then said:

> It may be safely affirmed that the present annual supply of thirty millions sterling of gold is no more than sufficient to meet the requirements of the expanding commerce of the world, and prevent that pressure of transactions and commodities on the precious metals which means in practice *prices and wages constantly tending toward decline.* * * * The real danger is that the present supplies should fall off, and among the greatest and most salutary events that could now occur would be the discovery of rich gold deposits in three or four remote and neglected regions of the earth.

Instead of the discovery of new gold-fields, that which has actually happened since 1869 has been a declining production in old ones. The annual supply of $150,000,000, then considered barely sufficient to meet the demand, has dwindled to $101,000,000, while during the same period the demand and necessities for money have been constantly and largely increasing. This increasing demand, crowding upon a failing supply, was of itself a great misfortune; but, as if to change unavoidable evils into deliberate ruin, several commercial countries, including our own, demonetized silver. In its review of the financial year 1872, (published March 15, 1873,) the London Economist predicted the inevitable consequences in the following language:

> At the end of 1872, the (German) gold coinage amounted to twenty-one millions sterling. The following paragraphs from the well-informed city writer of the Daily News gives the latest facts, and properly draws attention to their important character:
>
> "By the present bill, the German government is certainly paying England the compliment of adopting its single gold standard, but the cost of the measure to the London and other money markets cannot but be great. As the annual money supply of gold

throughout the world is reckoned at little more than £20,000,000, and the usual demand for miscellaneous purposes is very large, it follows that, if the German government perseveres in its policy, the strain upon existing stocks and currencies will be most severe. Unless the annual production of gold should suddenly increase, the money markets of the world are likely to be perturbed by this bullion scarcity."

These inevitable consequences of the policy of Germany, and of the United States and other countries co-operating with Germany, have been and are now being realized as predicted. But strange to say many of those who foresaw and predicted them now deny what the whole world knows to be true, that paralyzed trade and stagnant industry, the necessary accompaniments of "*prices and wages constantly tending toward decline*," are the natural results of the demonetization of silver, which began in injustice and is culminating in disaster. The folly of that policy is only equaled by the folly of hoping that prosperity can be restored while that main and principal cause of existing evils is still at work. What is doubtful is whether even with the use of both gold and silver there may not be a most injurious "*pressure of transactions and commodities on the precious metals.*" The fatal effects of discarding either of them are only too clear, and those who advocate it are, wittingly or unwittingly, the enemies of the human race.

A general view of the industrial prostration in Europe, dating with 1873, is presented in the annual tables of the *Moniteur des Interets Materiels* of Brussels, a very high authority, of the offerings in the European markets of new shares and new bonds in industrial undertakings, such as mines, railroads, and manufactures. These figures, which, if not absolutely correct, are likely to exhibit accurately the proportions between different years, are as follows:

1872	$968,362,500
1873	897,450,000
1874	432,450,000
1875	147,637,500

The United States, even if its paper currencies had been left undisturbed, could not have escaped grievous injury from the demonetization of silver. The heavy interest account on its indebtedness held in Europe must be paid by the export of products and their sale at metallic prices, which were certain to fall, and have fallen, through the pressure brought upon European gold markets by the adoption of the single gold standard in Germany and other countries. But the paper currencies of this country were not left undisturbed. On the contrary, they had been constantly and largely contracted from the close of the civil war down to 1873, and a shrinkage in the volume of accepted paper currencies has the same effect upon prices, productive industry, and prosperity as a shrinkage in the volume of metallic money. Between 1864 and 1875 the population of the country using the national currency was nearly doubled by the addition of the people of the Confederate States in 1865, and by the natural increase of both the sections afterward. As a consequence, the productive forces of the country and the demand for money to measure and exchange the fruits of its augmented industry were increased, if not in as great a ratio, at any rate very largely. But during this period the volume of paper currencies was steadily shrinking in the United States, while the metallic money of the specie-paying countries of Europe was undergoing the same process.

Later on, the specie-resumption act (January 14, 1875) was passed. Its true character, as now interpreted, was neither avowed in Congress nor understood by the country at the time of its passage. The phraseology of the act created the impression that there was to be no reduction of the

aggregate of paper money, but that legal-tender notes were to be diminished only as bank-notes were increased. As the act is administered in practice, both classes of notes are being reduced at the same time, while the population of the country is expanding. The words of the act may justify this method of administration, but it was not with that understanding that it was sanctioned by Congress.

A more fatal misconception grew out of the ignorance that prevailed almost universally until after the passage of the resumption act, that silver had been demonetized, and hence, that a law providing for specie payments was really a law for gold payments. The people were not aware that coin then meant gold, and that coin payments involved the shriveling of all values to the measure of a single metal. They were in favor of resumption but not confiscation, and they were not aware that resumption as proposed was but another name for spoliation. Although the period fixed for this spoliation was nominally in the future, it actually commenced at once and is now proceeding day by day. It having been made certain, so far as the law could make it certain, that each dollar of the actual money of the country would, on a given day in the near future, be raised to the value of a gold dollar, the universal tendency was, and has continued to be, to change all forms of property into money, and to refuse investment in either property or productive enterprises. Moneyed capitalists, knowing the disastrous effects which the impending fall in prices would have on the financial condition of borrowers, prudentially withdrew or diminished all credits and hastened to realize on securities. They have never been deceived for one moment by the idle fallacy that resumption in gold involved an appreciation in the value of the legal-tender notes and a fall in prices only to the extent of the present difference between the value of those notes and gold. They know that the appreciation of legal-tender notes must reach that vastly higher level which the value of gold must reach when hundreds of millions of it are demanded for resumption, and that prices will sink to a corresponding point of depression.

It is through these plain processes, that he who runs may read and understand, that the crushing effect of the demonetization of silver is already felt, although practically and legally the money of the United States is still paper. It is through these plain processes, although real resumption in gold is neither possible January 1, 1879, nor on any other day, except through a great and improbable increase of the world's stock of gold, or on the basis of universal ruin, that every effort made to reach such resumption by locking up paper or gold, is a disastrous step toward bankruptcy. It is through these plain processes that the stagnation and paralysis in commerce and industry everywhere visible, which had already been brought about by a contraction in the volume of money, are being aggravated and intensified as the time approaches for that unknown measure of contraction which will be absolutely necessary to render the paper money of the country constantly convertible into a stock of gold that must be ruinously meager, unless some great commercial country shall consent to suspend specie payments for our especial benefit.

CONCLUSIONS.

Upon the facts and considerations hereinbefore set forth, and after carefully weighing the views presented to them orally and in writing by various persons, the commission submit the following answers to the questions referred to them by Congress:

1. The first question relates to the causes of the recent change in the

relative value of gold and silver, and to the effect of that change upon "trade, commerce, finance, and productive interests of the country."

This commission concur in the following opinion of the British silver commission, (1876:)

Notwithstanding the late rise in the production of silver as compared with gold, its proportion to gold is still considerably below what it was in 1848, to say nothing of the period when the proportion was 3 to 1; and the conclusion seems justified, that a review of the relations of the metals in times past shows that the fall in the price of silver is not due to any excessive production as compared with gold.

It is not now seriously maintained anywhere that any recent fact in the production of silver is among the causes of its decline relatively to gold.

The causes of the recent change in the relative value of gold and silver are mainly the demonetization of silver by Germany, the United States, and the Scandinavian states, and the closure of all the mints in Europe against its coinage. These principal causes were aided by a contemporaneous diminution of the Asiatic demand for silver, and by enormous exaggerations of the actual and prospective yield of the Nevada silver-mines. The effect of all these causes, principal and accessory, reached its culminating point in the panic of July, 1876, in the London silver-market. Many of these causes are essentially temporary. The Asiatic demand for silver has already recovered its accustomed force, and the delusions in respect to the Nevada mines no longer exist. In the opinion of the commission, if the United States restore the double standard, the spread of the movement in favor of a single standard of gold will be decisively checked. The effects of the demonetizations so far accomplished, and of the resulting disturbance of the relative value of gold and silver, upon trade, commerce, finance, and productive interests in this country and throughout the commercial world, have been signally disastrous, and especially to the countries which have recently demonetized silver, or in which the gold standard was already established. In all commercial countries the same phenomena are simultaneously presented, of falling prices of commodities and real estate, diminishing public revenues, starving, poorly-paid, and unemployed laborers, and rapidly-multiplying bankruptcies. These facts existing everywhere must arise from some cause operating everywhere, and no such cause is or can be pointed out except the decrease of the metallic supplies from the mines, and consequently the decrease of metallic money relatively to population and commerce since about 1865, and the larger and more sudden decrease of metallic money caused by the partial destruction of the money functions of one of the precious metals. This distress dates with the law of the United States of February 12, 1873, and the law of Germany of July, 1873, giving practical effect to a previous decree of that empire of December 4, 1871, for the establishment of a single gold standard. The stationary or declining production of the metals had already produced a stringency in the metallic money-markets of the world, and as money stringency and panic are near neighbors, the demonetization of one of the metals broke down the partition between them. The demonstration of the nature of the mischief seems complete. What the world has witnessed immediately following a concerted movement to demonetize silver, is that fall in prices, ruin of productive interests, and increase in the absorbing power of moneyed capital, which could not fail to attend a sudden narrowing of the measure of values. Prior to 1873 prices were regulated by the general existence of a measure of values consisting of the two metals, of about equal proportions in the world's stock. To annihilate the monetary function of one must greatly increase the purchasing power of the

other, and greatly reduce prices. As all debts, public and private, in Europe and America had been contracted while the double standard was in practical operation, their weight, always burdensome, became crushing when made solvable exclusively in one metal. Silver, to the amount of three thousand million dollars in coin, the accumulation of fifty centuries, is so worked into the webb and woof of the world's commerce, that it cannot be discarded without entailing the most serious consequences, social, industrial, political, and commercial. The evil is enormously aggravated by selecting gold as the metal to be retained, and silver as the metal to be rejected.

The supply of gold is diminishing, being now but little more than half what it was in 1852, and is always so fitful and irregular from the method of its production that it is ill suited to be a sole measure of values. Placer-washings require little or no capital, and are soon exhausted. Silver, on the other hand, is found in veins which extend to great depths, the development of which can neither be commenced without capital nor abandoned without the loss of heavy investments. Its production is, therefore, comparatively steady and permanent, and it is this steadiness in the production of silver, together with the vast stock in use as money throughout the world, which is the moderator of the fluctuations of gold, and which, during the sudden and enormous additional supplies of gold since 1848, saved the commercial world from ruinous disaster. The Californian and Australian placers would have inflicted practical confiscation upon the creditor classes if the silver, which many of them now seek to discard, had not protected them.

The exchanges of the world, and especially of this country, are continually and largely increasing, while the supplies of both the precious metals, taken together, if not diminishing are at least stationary, and the supply of gold, taken by itself, is falling off. To submit the vast and increasing exchanges of this country and the world to be measured by a metal never reliable in its supply, and now actually diminishing in its supply, would make crisis chronic and business paralysis perpetual.

2. The second question covers the two points of the restoration of the double standard in this country, and of the best legal relation between gold and silver. The commission recommend the restoration of the double standard and the unrestricted coinage of both metals, but are unable to agree upon the legal relation which should be established between them. The views of individual members of the commission upon this last point are hereto appended.

3. The third question relates to "the policy of continuing legal-tender notes concurrently with the metallic standards, and the effects thereof upon the labor, industries, and wealth of the country." The commission do not suppose that it is possible to maintain paper in actual concurrent circulation with coin, unless the paper is made equal in market-value to coin, by actual convertibility into it, and that the answer to this question may be embraced in the answer to the fourth and last question, which relates to the resumption of specie payments.

4. The fourth question covers "the best means for providing for facilitating the resumption of specie payments." The opinions of the witnesses examined upon this point, and the views upon it which are contained in written communications addressed to the commission, are various and contradictory. The experience of other countries furnishes little aid in reaching conclusions which can command confidence. The fact in regard to paper money issued directly by governments and having a forced currency seems to be, that it has seldom been redeemed in coin. To redeem the paper issues of a country and keep the coin in circulation has

always been regarded as a very delicate and difficult operation. In the two empires of the present day, covering the greatest extent of territorial area, Russia and Brazil, such paper money has existed, in the first for a century, and in the second for about half that time. In Russia there have been large issues and occasional redemptions at a percentage. In Brazil the paper seems to have been maintained at a close and steady approximation to the value of coin. The only conspicuous example of a government resumption is that of England in 1821. The suspension of coin payments in that case was not in form that of the government, but in substance it was so, from the intimacy of the relations between the government and the suspending Bank of England. The government itself gave up coin payments and tendered nothing to the holders of national obligations but depreciated bank-notes. Nothing seems to be certain, except that the British resumption of 1821, as it was actually accomplished, was followed by an unexampled commercial and industrial depression, covering nearly the period of a generation. The economical writers and authorities of that country do not agree that the resumption was finally effected in the most judicious mode, and still less do they agree as to what would have been a better mode.

It is not possible, therefore, to draw from that historical example much to enlighten us as to the proper policy to be now pursued by the United States. The commission have been able to arrive at only the one single conclusion, that resumption in this country is not practicable under the circumstances, until the existing laws making gold the sole metallic legal-tender are repealed. Resumption, while those laws remain in force, is the establishment of an exclusive gold-standard in the United States, just as English resumption in 1821 gave effect to the English gold-law of 1816. That the two precious metals together are adequate to maintain existing prices is made at least doubtful by the fact that so many countries have abandoned coin payments within recent years, and have resorted to paper money. The total inadequacy of gold alone is apparent. Germany, Great Britain, and France are the only countries in the world which have any considerable quantity of it, and the maximum estimates of the aggregate amount they have in coin and bars will not exceed $1,300,000,000. It is not suggested that there are any available and disposable quantities elsewhere. In the opinion of the commission, the total quantities in the Western World are much exaggerated in the average estimates of statisticians.

Germany commenced its march (not yet completed) to a single gold standard unembarrassed by national debt or foreign debt of any kind, and with a tribute exacted from France of $1,000,000,000. If the German movement, under these favoring circumstances, has resulted in such great commercial disturbance and such general distress, it can scarcely be estimated what financial disasters will befall this country if it shall persist in a similar movement under the weight of enormous debts, public and private. In the opinion of the commission, the remonetization of silver is a measure essential to specie payments and may make such payments practicable. Both gold and silver are found in our own territory, and their production is among the most important of our industries, and both are needed and in the fullest measure to render the resumption of specie payments possible. The problem of resumption is not an easy one under any conditions, but the energies of the American people may be found equal to it, if they are not deprived of one-half of their ancient and constitutional money.

The commission believe that the remonetization of silver in this country will have a powerful influence in preventing, and probably will pre-

vent, the demonetization of silver in France and in other European countries in which the double standard is still legally and theoretically maintained. But if, notwithstanding remonetization here, further European demonetization shall take place, the result for us will be an advantageous exchange of commodities which we can spare, for money which we need. The silver of Europe, disposable in the event of further demonetizations of it on that continent, will come to us, if at all, in payment for commodities, and in transactions which will be free and voluntary on the part of our citizens, who may be trusted to take care of their own interests.

Such transactions will give a much-needed stimulus to our commerce, and cannot fail to be made on terms which will be advantageous to us. Nations cannot suddenly dispose of a considerable mass of either metal without a loss from the temporary fall in its price, and this loss becomes the profit of the purchasers when the old price is recovered. Being flooded with the silver of Europe—now treated by many persons as an alarming danger—is being flooded with one of the precious metals and with money, if silver is remonetized in this country. Silver is the same thing, whether obtained by commerce with Europe or from the mines of America, and those who oppose our receiving it from abroad must wish to see our mines closed at home.

If the states of the Latin Union, or other countries in Europe, abandon the double standard after we re-adopt it, or because we re-adopt it, it will be a policy on their part through which great advantages will inure to us and great disasters will befall them. It would inaugurate in the United States an era of prosperity, based upon solid money, obtained on profitable terms, and under circumstances necessarily stimulating to our industry and commerce.

Finally, the commission believe that the facts that Germany and the Scandinavian states have adopted the single gold standard, and that some other European nations may possibly adopt it, instead of being reasons for perseverance in the attempt to establish it in the United States, are precisely the facts which make such an attempt entirely impracticable and ruinous. If the nations on the continent of Europe had the double standard, a gold standard would be possible here, because, in that condition, they would freely exchange gold for silver. It was that condition which enabled England to resume specie payments in gold in 1821. The attainment of such a standard becomes difficult precisely in proportion to the number and importance of the countries engaged in striving after it; and it is precisely in the same proportion that the ruinous effects of striving after it are aggravated. To propose to this country a contest for a gold standard with the European nations, is to propose to it a disastrous race, in reducing the prices of labor and commodities, in aggravating the burdens of debt, and in the diminution and concentration of wealth, in which all the contestants will suffer immeasurably, and the victors even more than the vanquished.

JOHN P. JONES.
LEWIS V. BOGY.
GEORGE WILLARD.
R. P. BLAND.
WM. S. GROESBECK.

Opinions of Messrs. Jones, Bogy, and Willard concerning the legal relation of value which should be established between the metals.

In the opinion of the undersigned, the proper legal relation of value to be established in the United States between silver and gold is 15.5 to 1.

That is the legal relation in all the double-standard countries of Europe, with the single exception of Holland, where the double standard has been provisionally established with a relation of 15.6 to 1. It would be unreasonable to expect France, whose legal relation between the metals of 15.5 to 1 has existed since 1803, and whose actual metallic circulation approximates $1,000,000,000, to assent to a change of the relation, which would compel the recoinage of either the gold or silver portion of that vast stock. The states of the Latin Union, including France, are, in fact, restrained by treaty until 1880 from changing the relation. Indeed, it is not suggested by anybody that it is probable or reasonably possible that the double standard will be maintained in Europe upon any other relation than 15.5 to 1. It is certain, therefore, that when the mints of Europe are again opened to the unrestricted coinage of silver, the London price of silver must again become 60.87 pence in gold per ounce, or substantially that.

If we resume the coinage of the silver dollar with a weight of 412.5 grains, and the gold dollar remains unchanged. It will give a relation between the metals of 15.98 to 1, and a legal valuation to silver of 59 pence per ounce in gold. This would make the market or bullion value of silver 3 per cent. greater than its mint or legal value. The result would be, that no silver would be coined in this country, and even if it were coined could not be kept in circulation, but would be sure to be exported. This is just what happened after the relation of 15.98 to 1 was established here by the acts of 1834 and 1837, and is certain to happen again if we re-establish that relation, and if the double standard with unrestricted coinage is maintained in Europe.

A law of the United States remonetizing silver, but on a relation which would prevent its circulation if the mints of the double-standard countries of Europe were re-opened to the coinage of silver, would tend to keep those mints permanently closed to silver. We cannot expect France to coin it, if we practically refuse to coin it in concert with Europe, by fixing a relation under which coinage here would be practically suspended.

If the gold dollar is not changed, the bullion value of a silver dollar of 412.5 grains must again be 103 cents in gold whenever the double-standard countries of Europe open their mints to the free coinage of both metals, and our silver would flow away and would not return unless through some extraordinary demand in gold-standard countries, arising from commercial or financial revulsions the value of gold should advance to a parity with it. The effect of such a demand would be, of course, to drain away the gold of this country, but we could not obtain any relief through its replacement by silver until the drain had proceeded far enough to raise the value of gold fully three per cent. On the contrary, if our relation should correspond with the general relation of double-standard countries, silver would flow into or out of the United States upon the slightest change in the relative value of the two metals. Upon the first call upon us for gold to meet extraordinary demands from gold-standard countries, silver would flow in to take its place, and under like circumstances, upon the first call upon us for silver from silver-standard countries, gold would flow in to take its place. The equilibrium of value between the metals would be thus maintained, and the steadiness of our money-markets would be protected from shocks, arising from the special demands of foreign countries for a particular metal. This is an inestimable advantage which the United States has not enjoyed since the acts of 1834 and 1837, and not fully since 1803. The equivalency thus established in the market-value of gold and silver

coins, would enable the country to avail itself of both at the commencement of financial difficulties, instead of being compelled to wait until those difficulties had worked great hardships.

When the coinage of silver is resumed in this country, it should be at such a relation with gold as would be most likely to insure stability and permanency, as these qualities are of prime importance in every monetary system. The immense sum of silver already coined in Europe at the relation of 15.5 to 1 is the strongest possible guarantee that this relation, if once established in the United States, would be sustained without change.

The policy proposed by some, of the resumption of coinage at the relation of 15.98 to 1 for the present, with a view to a change of that relation hereafter by an international conference, the undersigned believe to be unwise, not only because such change would involve the cost and inconvenience of the recoinage of the silver which had already passed into circulation and become the practical measure of value, but because it would impair the public confidence in a monetary standard, the stability of which would be discredited in advance by the impression that the coinage relation of the metals was merely temporary and soon to be subjected to revision.

The relation of 15.5 to 1 may be established here, either by reducing the weight of the silver dollar from 412.5 to 399.9 grains, or by increasing the weight of the gold dollar from 25.8 to 26.6 grains. The undersigned are not insensible to the difficulties attending either mode of accomplishing the object.

If the weight of the gold dollar is increased, it will involve the inconvenience and expense of reminting a very large amount of gold coin.

While the undersigned are firmly convinced that the parity of gold and silver coins at the relation of 15.5 to 1 would be assured and permanently maintained; yet, should any difficulty arise from the coinage of a silver dollar of 399.9 grains, in the adjustment of contracts to make payments in coin of the weight and fineness existing at the date of such contracts, it may easily be remedied by appropriate legislation.

On a full consideration of the advantages and disadvantages of the two modes of reaching the relation of 15.5 to 1, the undersigned are of opinion that the weight of the silver dollar should be reduced to 399.9 grains.

It may be added that a legislative remonetization of silver on the relation to gold of 15.5 to 1 accomplishes without delay all the objects of the proposition for an international conference, which is urged from various quarters. If such a conference resulted in anything, it would be in the agreement of the United States to adopt this European relation of 15.5 to 1, as it neither can be nor is expected that Europe could be persuaded by any conference to give up that relation and adopt the old American relation of 15.98 to 1. The adoption here of the relation of 15.5 to 1 by an act of legislation, would be the most authentic and decisive offer of accord with the European countries of the double standard which could possibly be made. It would be not merely the offer of an accord, but the actual establishment of one.

An international conference can only be an advisory body. Under our Constitution, this country cannot be represented in it by any functionary having any greater power than that of recommendation. The relation of the metals can be regulated only by Congress. It is not within the treaty powers of the President and Senate, and it is only by the enactment of a law that an effective proposition can be made to

Europe of the double standard on a uniform relation of the two precious metals.

As already indicated, the undersigned believe that the United States should remonetize silver, whatever the future policy of Europe may be. At the same time they believe it to be wise to make to Europe the offer of an accord upon the relation of the metals, and that this offer can be best made by the enactment of a law fixing 15.5 to 1 as the relation here.

But diversities of opinion as to the proper relation between the metals, and as to the one most likely to secure permanency and steadiness of value, should not be insisted upon to the extent of endangering the passage of a bill remonetizing silver at any relation which has been proposed. The great object is the remonetization of silver. Its precise legal relation of value to gold is of far less importance.

JOHN P. JONES.
LEWIS V. BOGY.
GEORGE WILLARD.

Opinions of Mr. Groesbeck, concerning the legal relation of value which should be established between the metals.

In the foregoing report we have recommended that silver be restored to equal rank in our currency with gold, and made a legal tender for all debts, public and private. The wisdom and safety and necessity of such a course, in order to do exact justice between creditors and debtors, to encourage and sustain industry and enterprise, and aid and prepare for resumption of specie payments, cannot be too strongly urged. We have had the single standard of gold for the last three years, but having been in suspension during that time, it is as yet untried. We had the double standard during all else of our national life. It was long and well tried, and I have not been able to find that we ever suffered the least harm from the use of both gold and silver as legal-tender money. On the contrary, we greatly prospered with them. They are the currency contemplated by the Constitution of the United States; the currency named in our State constitutions; and the currency to which our people are accustomed and with which they have been always satisfied. It was upon no demand of theirs that silver was demonetized, and we have recommended that it be restored to them.

While we have agreed on this, we have differed as to the relation which should be established between the two metals. Some of the commission recommend that the old silver dollar be reduced from four hundred and twelve grains and a half to three hundred and ninety-nine grains and nine-tenths.

The gold dollar and the old silver dollar stood to each other in the relation of 1 in weight of gold to $15\frac{9\,8}{1\,0\,0}$ in weight of silver, say 1 to 16. The gold dollar and the silver one now recommended by a part of the commission, would stand to each other in the relation of 1 to $15\frac{1}{2}$. In a word, the proposed new silver dollar would be three per cent. in value below the old one.

I cannot concur in recommending this change, but adhere to the old dollar.

It is objected that it contained too much silver, and by reason of this was at a constant premium in the market over the gold dollar, and therefore would not circulate here, but left the country as bullion. This may be so; but it sent back to us in exchange for itself, its full value

in gold and merchandise. We are rich in silver, and can afford to repeat such transactions in the future.

It is not to be overlooked that quite recently silver was greatly depreciated, and that it is yet a little below par in comparison with gold. Some still doubt the stability of silver, and many are partial to gold, and the history of these metals will show there has been a slight widening in their relative value. Law can do much to control this tendency, and to fix and hold them, when both are used as money, in a steady relation to each other; but no statute law can make the relation unchangeable. A great abundance or a great scarcity of one or the other, and the extent of its use, will in some degree affect its value. In view of this tendency, and in the present condition of the metals, we are not called upon to narrow their relation to each other, but should keep our silver dollar as rich in silver as it was before its demonetization. It may be that its remonetization at the relation between it and gold of 1 to 15½, the European or French relation, would bring it abreast with gold, and keep it there; but I must insist that remonetization, at our old relation of 1 to 16, would be quite as certain in its results, and, in view of the apprehension yet lingering in the minds of many, more just and acceptable.

It is urged that we should adopt the relation of 1 to 15½, because it is the relation of the Latin Union, and its adoption by us would strengthen France and her associates in their position, and so strengthen ourselves also. It is admitted that the utmost attainable steadiness should be secured in the relation that may be adopted for the two metals, and this result is best secured when different nations using the double standard adopt the same relation. Such a policy may be indispensable in the Latin Union, composed of nations adjoining each other, though Holland, which lies in contact with the Latin Union, maintains a slightly different relation without serious embarrassment. We are so far removed, that this policy would seem to be secondary to other considerations especially applicable to our own case. And I venture to add, that if the United States and the leading nations of Europe, including the Latin Union, were now assembled in a convention to consider this subject, they would, in view of the present market value of the two metals, prefer our own relation, as being the more accurate and just.

Until a convention as largely attended as the one just suggested shall take this matter into consideration, we may safely remain on our own relation. It answered in the past; it will answer in the future, and we are strong enough to maintain it. About all we should undertake at the present time, is to undo the recent legislation demonetizing silver and restore it to its exact former position. This course is very simple and avoids all embarrassments. In a bill recently passed in the House by an overwhelming majority, the work is already half done, and the shortest way to the restoration of silver is to complete that work. A proposition to reduce the size of the dollar throws that work aside, and by offering a new scheme invites discussion, division, and delay, and may in the end endanger remonetization of any kind.

Another plan suggested by one of the commission is to do nothing for the present, and remit the subject to the consideration of some international convention that may never be held, and wait for its doubtful and distant recommendations. There has been an international convention not unlike the one now proposed. It was held in Paris in 1867. Not less than twenty nations attended it, including all the leading nations of Europe and the United States. Its deliberations were careful, its dis-

cussions able, its results practically nothing. Such a plan for disposing of a subject of local urgency and pressing for settlement, may be regarded as tantamount to its indefinite postponement.

A word more about resumption of specie payments. Much testimony was taken on this inquiry, and we present with the report the views of able and experienced gentlemen. There is wide diversity in these views, and it seemed to a majority of the commission that the true and best method of resumption had not yet developed itself enough to come into clear view. In one opinion they heartily concurred: Resumption must wait upon remonetization.

W. S. GROESBECK.

Opinions of Mr. Bland concerning the legal relation of value which should be established between the metals.

While I appreciate the importance of conforming our monetary system to that of other countries in so far as to adopt the relation of 15½ to 1, as recommended by some other members of the commission, yet for reasons so ably presented in Mr. Groesbeck's paper, in which for the most part I concur, I fear we would endanger the success of the movement to remonetize silver in this country, should we now attempt to change the relation existing when so many of our debts, public and private, were contracted; for whatever silver dollar we authorize, should in all respects, in law, be equal to the gold dollar in the discharge of all debts public and private, past and future. Otherwise the bimetallic system would prove a failure.

R. P. BLAND.

MINORITY REPORT OF MR. BOUTWELL

The undersigned, a member of the commission appointed "to inquire into the change which has taken place in the relative value of gold and silver, and the causes thereof, the policy of restoring the double standard in this country, and of continuing greenbacks concurrently with the metallic standards," having been unable to agree to the conclusions reached by the majority of his associates upon that commission, respectfully submits to the Senate the following statement of his views:

The attention of the commission has been directed chiefly to three subjects of inquiry:

First. To the expediency of authorizing the coinage of a silver dollar, and making it a legal tender in the United States for all purposes except such as are otherwise specially provided for by law or by contract.

Secondly. To the expediency of inviting the governments of countries with which we are in intimate commercial relations to join us in an international convention for the purpose of considering whether gold and silver should be adopted as a standard in all such countries upon a fixed relative value of the two metals.

Thirdly. To the probable influence of the first and second propositions respectively upon the ability of the Government to resume and maintain specie payments.

The undersigned entertains the opinion that it is not now expedient for the Government of the United States to authorize the coinage of the silver dollar in the manner and for the uses stated in the first proposition.

The undersigned is also of opinion that it is expedient for this Government to extend an invitation to the commercial nations of the world to join in convention for the purpose of considering whether it is wise to provide by treaties and concurrent legislation for the use of both silver and gold in all such nations upon a fixed relative valuation of the two metals; and, finally, that until such an agreement between this Government and other commercial nations can be effected, the United States should pursue the existing policy in regard to the resumption of specie payments.

It is not material in the present inquiry to search for the reasons which control mankind and lead them to the conclusion very generally entertained that gold and silver are better adapted than any other articles for use as measures of value. The existence of this opinion must be admitted; and, proceeding one step further, it is equally true, if not generally so accepted, that gold is everywhere a standard of value, while in many countries silver has been rejected. It follows, therefore, that the theory of its equality with gold in this respect cannot be maintained. Even in countries where silver is used as a coin and endowed with the quality of being a legal tender, it is yet an article of commerce, and its value in all foreign transactions is measured by gold and tested by the gold standard. During the last three years there have been great variations in the commercial value of silver, but it is useless to inquire whether such variations are due to a fall in the value of silver or to a rise in the value of gold. Gold being the only universal standard

or measure of value, all other articles are tested by it, and however the standard may change, yet so long as it is accepted as the standard, the relation which other articles, including silver, bear to it is one of fact, and all theories in regard to values must conform to the fact.

Human experience furnishes uniform testimony in support of the proposition that thus far no country has been able to maintain two standards of value in actual use at the same period of time; and in every country which has adopted a bimetallic standard, that metal has been used, to the exclusion of the other, which was overvalued as a coin as compared with the value of the bullion contained in the coin when tested by its market-price in other countries of the world.

The consequence has been that in every country where the bimetallic standard has been adopted the overvalued metal as coin has been used to the exclusion of the other.

At present the gold dollar of the United States, which contains $25\frac{8}{10}$ grains of standard gold, will purchase a larger quantity of pure silver than is contained in the dollar of $412\frac{5}{10}$ grains standard silver.

The superior value of the gold dollar would prevent its use, and the gold coin and gold bullion of the country would at once be exported to other countries and silver in exchange would be returned, and, when coined, it would be introduced into the circulation of the United States.

The demonetized and discarded silver of every other country would flow to the United States, and there can be no doubt that after the first effect of its remonetization here had passed away it would steadily depreciate in value. Nor can there be a doubt that our unfortunate experience would furnish an argument against the remonetization of silver by the commercial nations of the world. It is contended by those who advocate a bimetallic standard for the United States without regard to the policy of other countries that its use by us would so advance its value in the markets of the world that it would be at par with gold. It can only be said in answer to this assumption, that there is no evidence that such would be the result, while, on the contrary, it is reasonable to anticipate that the demonetization of silver in Germany, the limitation of its coinage by the nations of the Latin Union, its reduced value in India, and the large production in America, would counteract the effect of an increased demand for coinage in the United States, and that in a period of ten years its relative value to gold would be less than it now is.

In the present age, with the existing facilities for communication between the different parts of the world, it is the first necessity of a commercial people that their standard of value should be of itself accepted by other commercial nations.

The utility of either of the precious metals as a standard of value is chiefly, if not altogether, in two particulars: first, for the purpose of redeeming the paper currency of the country, whatever it may be; and, secondly, and mainly, for the purpose of liquidating balances with other countries.

It is to be observed, in connection with this statement, that when the paper currency of a country is redeemable in coin at the demand of the holder, the occasion for such redemption arises almost entirely from the circumstance that coin is wanted for the settlement of foreign balances, and, therefore, it may be said that the great advantage to be derived from the resumption of specie payments is to be found in the facility which will be thus afforded for the transaction of business between citizens of the United States and the subjects and citizens of other countries, and, that any scheme of resumption which does not produce this result, fails altogether to meet the demand of the times.

As long as silver is merely an article of commerce in Great Britain, where our bills due to other countries are finally adjusted, the use of silver as a standard in this country will fail to produce any of the important results which ought to flow from the resumption of specie payments.

The resumption of specie payment means, or should mean, that the paper currency of the country is redeemable at the will of the holder in coin, which will be received in payment of debts due to other countries, and at its nominal value. To say that the holder of a United States note can obtain silver for the note, and that with the silver he can purchase gold and pay a debt due in London, is, in fact, a statement that he could then do what can now be done. The holder of a United States note can purchase gold, and with the gold he can pay his foreign debts.

London is the financial center of the world, and while there are two theories as to the sources of its power in this particular, neither theory affords any support to the policy of using silver as the standard of value in the United States. One theory is that the act of the British Parliament of 1816, by which gold alone was made the standard of value, was the foundation of the commercial and financial pre-eminence of England.

While the undersigned does not concur in this opinion, he thinks it proper to state that if Great Britain is indebted for her commercial and financial supremacy to that act, the success of her policy would justify and require its imitation by the United States at the present time.

The undersigned, however, is of opinion that the financial supremacy of England is due largely, if not entirely, to her policy in encouraging manufactures and fostering and extending her maritime power.

It remains, however, to be said that the accumulations of capital are greater in England than with us; that credits for commercial transactions over the whole world can be obtained more cheaply there than elsewhere; and that while her pre-eminence in these particulars remains London will continue to be the clearing-house for other countries. Inasmuch as balances there must be settled in gold, it would seem wise for other commercial nations to make that metal the sole standard of value, or by a general agreement, to which England should be a party, secure the adoption of the bimetallic standard.

In addition to the results which will follow the introduction and use of silver coin in the United States, to which reference has already been made, the undersigned cannot omit to notice the effect of the measure upon the public faith and credit of the country.

By the act of the 25th of February, 1862, it was provided that all duties on imported goods should be paid in coin, and that the coin so received should be set apart as a special fund and applied to certain purposes. These were, first, to the payment in coin of the interest on the bonds of the United States; and, secondly, to the purchase or payment of one per centum of the entire debt of the United States, the same to be set apart as a sinking-fund, the interest on which in a like manner should be applied to the purchase or payment of the public debt, as the Secretary of the Treasury should from time to time direct.

After the passage of the act of 1834, by which an increased value was given to gold as compared with silver, the standard of value practically was gold, the only use for silver being in the circulation of subsidiary coins, which were in fact tokens, after the act of 1853, the weight then being so light as to preclude their purchase and use as bullion.

At the time of the passage of the act of 1862 gold was the only coin in circulation and the only standard of values in the country. Customs receipts were in gold exclusively, and they have been so collected from

that time to the present. The interest upon the public debt has been paid uniformly in gold coin. Although there was authority for the coinage and use of the silver dollar containing $412\frac{5}{10}$ grains of standard silver, yet, as a matter of fact, its coinage had been suspended, and the overvalued gold coin had been substituted universally in its place.

Public creditors may very well claim that they are entitled to receive in payment of the interest and principal of the public debt the gold coin of the standard value authorized and in circulation at the time that the act of 1862 was passed.

The undersigned is of opinion that the adoption of silver as the standard would be followed by a loss, in the depreciation of the public credit, far greater than any gain to the Government by the payment of the interest and principal of the public debt in a coin less valuable than gold. Indeed, the depreciation of the public credit proceeding from acts of imputed bad faith, whether properly so imputed or not, cannot be compensated by any pecuniary gain, however large.

It is to be observed, further, that the duties on goods imported, if collected in silver, would be subject to the variations attending the market price of silver as compared with gold in other countries, and especially in England, where gold is the standard of value. The consequence of such a fluctuation to the manufacturers of the country and to merchants engaged in importing goods can be easily foreseen.

One of the chief objections to the irredeemable paper currency of the country is in the fact that the importer can never be assured that the price at which he sells his goods will be equal, when converted into gold, to their cost with the duties in gold added. But this condition of things does not affect materially the domestic manufacturer. The substitution of silver, however, and its use in payment of duties, would leave the domestic manufacturer constantly exposed to the effect upon business and profits produced by the changes that would certainly take place in the value of silver when measured by the gold standard.

There can be but one standard of value in any country at the same time, and a safe and successful use of gold and silver simultaneously can be effected only by their consolidation upon an agreed ratio of value and by the concurrence of the commercial nations of the world.

While, in the opinion of the undersigned, it is desirable to secure the use of the two metals by the concurrent action of the commercial nations, he does not entertain the opinion that any serious evils will come to us from maintaining the existing policy in regard to gold and silver. We are now upon a gold standard, and although the paper currency of the country is depreciated to the extent of five or six per cent., there has been, upon the whole, a constant improvement in its value since the close of the war.

During the last three years there has been a depression in business, but that depression is not due to the currency of the country, the evidence of which is found in the fact that a like depression in kind and degree has occurred in Great Britain, Germany, and in parts of Asia.

It is to be said, further, that recently a considerable improvement in business has taken place in this country without any change in our policy touching the currency. That improvement will no doubt go on, and should the balance of trade between this and other countries continue in our favor, there will be a constant appreciation in the value of our paper money as compared with gold.

During the last year the paper currency of the country, as compared with gold, has been as valuable for commercial purposes as silver of the standard proposed; and the substitution of silver for paper would in-

crease the cost of the currency of the country for domestic purposes, impair our credit, disturb the confidence of the world in the faith of the Government, diminish the value of our securities in the markets, and in the end leave us in a less favorable condition to compete with Great Britain for commercial and financial supremacy.

It should be borne in mind that a metallic currency is more expensive than paper, and that the chief use of the metals, whether one or both are employed, is to measure the value of the paper which is and ever should be the chief instrument for the transaction of business.

Therefore, if it be designed to substitute silver for paper as the actual currency of the country, the measure will be more expensive to the extent of many million dollars a year; and, if it is the purpose of the friends of a silver currency to merely provide silver for the redemption of the paper, no advantages will arise that will compensate in any considerable degree for the loss inevitably incident to or consequent upon the measure.

In the views heretofore presented the undersigned has indicated his opinion that it will be wise for the commercial nations of the world to agree upon the use of silver and gold as a standard and for all the purposes, the coinage to be free in each country, and unlimited in amount.

The testimony taken by the commission tends strongly to show that the annual product of the two metals combined is for a series of years more uniform than the annual product of either of the metals. This fact justifies the conclusion that the use of the two metals in the manner indicated will furnish a more unvarying basis for business than can be obtained by the use of either only.

It is no doubt true, also, that the demonetization of either metal adds to the purchasing power of the metal retained for use, by diminishing the price of every article of merchandise, while it increases the burden of debts, both public and private.

It is also true that the common use of the two metals furnishes a better basis for the paper currency of the respective countries, thereby rendering the transaction of business more safe, not only in the respective countries but between them, and diminishing the danger of revulsions and the suspension of specie payments.

In fine, every consideration which justifies and requires the use of a precious metal as a basis of business and a means of redeeming the promises of governments, corporations, and individuals seems also to justify the use of both metals for the same purposes, provided always that the use is universal or nearly so, and upon an agreed relative value of the two metals.

The evidence taken before the committee tends to show that there is a larger public sentiment in Europe in favor of the remonetization of silver than has heretofore existed, and that a proposition from the Government of the United States looking to a convention will be accepted by the governments of Europe, and that the result of the deliberations of such a convention will be favorable to the plan suggested.

On the other side, it is to be apprehended that the remonetization of silver by the United States at the present time would be followed by such a depreciation in its value as to furnish a reason against the adoption of the plan by the rest of the world; and that an independent movement on our part would increase the difficulties rather than diminish them. However that may be, the undersigned is of opinion that the introduction of silver as a currency should be postponed until the effort to secure the co-operation of other nations has been faithfully tried.

GEO. S. BOUTWELL.

MINORITY REPORT OF MR. BOWEN, CONCURRED IN BY MR. GIBSON.

Unable to accept the conclusions at which a majority of the Commission have arrived, the undersigned respectfully submits what follows as a Minority Report:

From the tables showing the monthly fluctuations in the London market-price of English standard silver (925 thousandths fine) per ounce, it appears that during a period of forty-one years, from January, 1833, to January, 1874, this price oscillated around 60*d.* per ounce, never falling below 58½*d.*, and never rising to 63*d.* Assuming the average price to have been 60*d.*, we find the ratio of value between silver and gold to have been as 1 to 15.7.* In 1874 the price of silver began to fall, though the decline did not become considerable till May, 1875, from which time, though with some fluctuations, the depreciation rapidly increased, till in July, 1876, the price touched 47*d.*, being a fall of 21 per cent., the ratio being then as 1 to 20. After July the price advanced again, till in December, 1876, it was about as high as at the beginning of the year.

Are these great and sudden changes in the relative value of the two precious metals attributable to a fluctuation in the value of silver, or in that of gold, or partly in both? This is the first question which it is the duty of the present Commission to consider.

In the opinion of the undersigned, formed after a careful examination of the evidence presented to this Commission, and to the select committee of the English House of Commons on the same subject, which made its report through Mr. Goschen last July, these changes must be attributed exclusively to a depreciation of silver, the fluctuations being such only as often accompany, at the outset, any considerable rise or fall in the market-price of a single commodity, before the reality and the precise amount of the alteration are definitely established.

Speaking generally, the value of anything is its purchasing power, or, in other words, its ratio of exchangeableness with other commodities. Whenever gold is the only standard, the average prices of commodities in general, after allowing for special causes of fluctuation in particular cases, indicate with sufficient precision the average value of gold. In fact, they do not merely indicate; they are that value. If there has been no recent panic in the market, no special cause of general depression of trade, a general fall of prices expresses a rise in the value of gold; and, conversely, if a fever of speculation has not for a time unduly stimulated the market, a general advance of prices is a fall in the value of gold. Now, during the fourteen months ending July, 1876, there was no general fall of prices in the London market corresponding to the great depreciation which then took place in the price of silver. In July, 1876, an ounce of standard silver would not purchase, either in London or New York, by about 17 per cent., so large a share of commodities generally as could have been obtained for it fourteen months

*An ounce of English *standard* silver contains 444 grains of the *pure* metal; and a sovereign contains almost exactly 113 grains of *pure* gold. Then 60*d.*, or one-fourth of a sovereign, contains 28.25 grains of pure gold, and the ratio of value between the two metals is as 28.25 to 444, or as 1 to 15.716+.

before. But gold had not risen. An ounce of standard gold could have been exchanged for very little, if any, more of other commodities generally, excepting silver, than in May, 1875. Even if general prices were somewhat depressed during these fourteen months, they certainly did not then immediately undergo a far more rapid change in the opposite direction, reaching their former level in December of the same year. In all its essential features, the fluctuation in the price of silver was an isolated phenomenon, having nothing corresponding to it in the general course of trade.

If we look at the circumstances affecting the relative demand and supply in the case of the two precious metals, we shall arrive at the same conclusion. During the last quarter of a century, the annual product of gold from the placers and mines has been so much in excess of the demand as to render it exceedingly probable that the value of that metal has been steadily, though slowly, falling, and that this decline is not even yet arrested. It is matter of the commonest observation, that the necessary expenses of living and maintaining a family have been constantly on the increase since 1851; the prices of commodities generally, reckoned in gold, have risen very considerably both in Europe and America. No one expects that they will recede again to what was their level before the discoveries of gold in California and Australia. The total annual product of gold in the world had risen from about 27 millions of dollars in 1849, to an average of more than 105 millions for the five years beginning with 1850, and to 136 millions as the average for the next five years ending with 1859.* What was the consequence of this enormous increase of the supply?

From the price-lists of the Economist newspaper, and from other sources, Professor Jevons, in his work on the Fall of Gold, published in 1863, compiled tables of the monthly prices of 39 of those chief articles of commerce, which may properly be regarded as necessaries of civilized life, and thus ascertained the average annual price of each of them for the whole period from 1845 to 1862, both inclusive. He thus proved that their prices had, "on an average, risen between 1845-'50 and 1860-'62 in the ratio of 100 to 116.2, which is equivalent to a depreciation of gold in the ratio 100 to 86, or by 14 per cent." He then took 79 minor commodities, less generally in use, the prices of which advance more slowly, since, as they are chiefly articles of luxury, an enhanced price diminishes their consumption; and taking the average of the whole 118 articles, the rise of prices, comparing the same two periods, was "found to be in the ratio 100 to 110.25, corresponding to a depreciation of gold in the ratio of 100 to 90.70, or by about 9⅓ per cent." He adds as the final result, "the lowest estimate of the fall that I arrive at is 9 per cent., and I shall be satisfied if my readers accept this. At the same time, in my own opinion, the fall is nearer 15 per cent."

Is there any good reason to believe that this fall in the value of gold has stopped, or has been materially retarded, since 1862? I think not.

Taking the three periods of five years each which elapsed between 1859-'74, we find the average annual product of gold throughout the world in each of them to be respectively, using the nearest round numbers, 102 millions, 103 millions, and 100 millions of dollars. In 1875, the same authority† puts the product for the year at 101 millions of dollars.

* Tooke & Newmarch's History of Prices, and the Economist newspaper, cited in Goschen's parliamentary report on the Depreciation of Silver.

† Goschen's parliamentary report, as before.

There is nothing in these figures which would lead us to suppose that the fall was much impeded; certainly it could not have changed to a rise. Again, while over 310 millions of pounds sterling were added to the stock of gold in the world during the fourteen years 1849–'62, during the thirteen subsequent years, up to the end of 1875, there was a further addition to this stock amounting to 263 millions of pounds sterling. We are justified, then, in concluding that a rise in the value of gold during the latter period was impossible.

While the fall of gold has been so slow and gradual as to be with difficulty detected, except when we regard its aggregate result after the lapse of a number of years, the depreciation of silver has been sudden and very great. It took place, as we have seen, in less than two years, and it amounted to 20 per cent. Its causes are easily discovered. Chiefly through the discovery and the rapid development of the silver-mines in the United States, there was a sudden and immense increase of the supply, and that was soon followed by an independent but considerable diminution of the demand. These two causes united created something like a panic, and several of the governments of Europe made haste to get rid, so far as was possible, of a commodity which, as it seemed, must rapidly decline in value, and to preserve their standard of value by demonetizing silver. Their action, of course, only enhanced the evil for others, against which it was intended to guard themselves. The stock of silver no longer needed for use as money in Germany, or for additional coinage by the states constituting the Latin Monetary Union, was thrown upon the market, where it operated to increase and accelerate the decline which had previously become inevitable.

The Comstock lode has been for our own times what Potosi was for the sixteenth century, though its effects have been developed much more rapidly.

The great increase in the supply of the precious metals from America, which took place during the latter half of the sixteenth century, was mainly owing to the discovery of the mines of Potosi, which were first systematically worked in 1545. Before that year, as we learn from Humboldt, the annual product of both the precious metals from America was only about 3 millions of dollars. Before 1600, Potosi had nearly quadrupled this amount, having raised it to 11 millions; and the consequence was, within a quarter of a century, that silver fell to about *one-third* of its former value. Before 1570, a quarter (eight bushels) of wheat of middle quality was sold in England, on an average of a long period of years, for about *two ounces* of pure silver; about 1600 (still taking an average of many years, so that the exceptionally good and exceptionally bad crops may offset each other) the price had advanced to a little over *six ounces*, a point from which it has not receded from that day to this.

Now pass over about three centuries, and we come to the effect produced by the Comstock lode in our own day. The product of the Nevada mines first became considerable in 1861, when the amount of silver raised, according to Dr. Linderman, the Director of the Mint, was about 2 millions of dollars. It rose rapidly till 1864, in which year the total product of silver in the United States, according to the same authority, was about 11 millions. In 1870 the annual product became 16 millions, and then rapidly bounded upward, till, in 1875, it had become 32 millions. During the last year, it was probably near 40 millions. Combining this product from the United States with that obtained from other sources throughout the world, we find that, up to 1861, the total annual yield of silver had been very steady for about ten years at a little over 40

millions of dollars, and that it rapidly increased from that date till 1875, in which year it became double its former amount, or almost exactly 80 millions.

In itself alone, this increase, though vast, might not seriously have affected the market for some years to come, since changes affecting the value of either of the precious metals are usually produced with great slowness, much time being required for equalizing prices throughout the world. During this intervening time, large quantities of the metal are, as it were, *in transitu*, or wandering about the world in search of the best market. But at about the same time, with the most rapid increase of supply, the demand for silver to be exported to British India suddenly fell off. During the four years 1862–'66, cotton was largely exported from India, and it was paid for by heavy remittances in silver, which is the money of that country. Within those four years, India absorbed silver to the enormous amount of 270 millions of dollars, this being the excess of the imports over the exports of that metal. Of course, when American cotton came again into the market after the close of the war, the price of India cotton rapidly fell off; it was no longer exported in large quantities, and the drain of silver for its purchase ceased. But another cause then came into operation, which prevented this drain from being at once and entirely checked. English capital was needed in large amounts to aid the construction of Indian railways, canals, and other costly public works; and the remittances on this account kept up the excess of the imports of silver over the exports, for another period of four years, to the average amount of 35 millions of dollars annually. At the end of this second period, the construction of these works practically came to an end, and the drain of silver, so far as this cause was concerned, not only ceased, but was turned the other way. India was then, and still is, heavily in debt to England for these supplies of capital; and the remittances home for interest and dividends became so large that India had but little to receive in merchandise or silver. The effect was, in 1870–'71, that the demand for silver to be sent to India suddenly fell off to less than 5 millions of dollars; and though it partially recovered the next year, the average for the last four years, ending in 1875, has been only about 10 millions annually, against an average of 67 millions a year during the four years of the American war, and of 35 millions a year for the four years following the close of that war. As it is improbable that the debt of India to England will be sensibly diminished for many years to come, it cannot be expected that the drain of silver to the East will be resumed to anything like its former extent within the life-time of the present generation.

The general result is, that, within the last fifteen years, the Comstock lode has added to the world's annual supply of silver about 40 millions of dollars, and the demand for that metal, to be exported to India, has fallen off, on an average, almost precisely to the same extent. No wonder, then, that the depreciation of silver should have been as sudden and great as that which we have witnessed, or that the principal states of Europe should have made haste to get rid, as far as possible, of their large stocks of this metal, and to substitute gold for silver as their standard of value. In the opinion of the undersigned, it will be wise for the United States, as far as may be, to follow their example.

England has had no occasion to change her action or her policy. Sixty years ago she adopted gold as her only standard of value, and demonetized silver, which has ever since been used in that country solely for purposes of small change, and is legal tender to the amount only of forty shillings. The quantity of silver in circulation being strictly lim-

ited, and being intentionally overvalued from the outset about 6 per cent., any depreciation of its value in the market does not at all impair its usefulness as subsidiary currency. Foreign silver coins cannot enter into circulation, but, if introduced into the country, can only be sold by weight at their bullion value. The consequence is, that English gold coins are now more generally received at their full value in all the markets of the world than any other form of money, and are a generally recognized medium for the settlement of international balances.

In order to secure the advantages of this English system, and to avoid the heavy loss which seemed impending over her currency through the depreciation of silver, Germany took the first step toward the abandonment of her silver standard by a law passed in December, 1871.

The Mark was then established as the unit of value, and the gold coins to be issued of the denominations of twenty and ten Marks were made legal tender. The value of the twenty-mark piece being made only fivepence less than that of the English sovereign, and threepence less than that of twenty-five francs, the new coins became easily interchangeable with the gold currency both of France and England. Power was also given for withdrawing silver coins, and the coinage of large silver pieces was stopped. The next step was taken in July, 1873, by a law which caused this imperial gold currency to take the place of the various currencies previously in use in the separate states of Germany, and established a subsidiary silver coinage, issued at a little more than 11 per cent. below its nominal value, and made legal tender to an amount not exceeding twenty Marks; but to avoid any inconvenience which might arise from too large an issue of these subsidiary silver coins, they were made receivable by the imperial and state treasuries up to any amount. The old silver coins were but slowly withdrawn, the one-thaler piece being continued in use at least up to July last. All bank-notes were withdrawn which were not made payable in imperial currency, and none can remain in circulation, or be issued in future, of a lower denomination than one hundred Marks, or about five pounds sterling. This was an important feature of the law, as bank-notes had previously been issued of as low a denomination as one thaler, and the withdrawal of all of them *below* five pounds must greatly increase the use of coin in small transactions. Under these laws, up to June last, new gold coins had been struck to the amount of 70 millions of pounds sterling. Of the old silver withdrawn, and not replaced by the new silver coinage, up to the 20th of April last, sales had been made to the extent only of about 6 millions sterling, which is too small an amount to have had much direct influence on the depreciation of silver before that date. It is probable, however, that a much larger quantity remains to be melted down and sold, though even an approximate calculation of its amount is stated by the German authorities themselves to be impossible.

Most of the other countries of Europe, excepting those which have in use a depreciated paper currency, have imitated the example thus set through preventing the further coinage of silver except for purposes of small change, and thus limiting the amount of it in circulation. None have gone so far, however, in this respect as Germany, but they have only done enough to prevent the influx of the now cheapened silver from driving gold out of circulation, and thereby depreciating their standard of value. Denmark, Norway, and Sweden virtually adopted the gold standard in 1872–'73, and have since largely imported gold, and have sold silver amounting to over 10 millions of dollars. Holland for some time pursued a vacillating policy, though attempts to alter her laws respecting coinage were made as early as October, 1872. But at last, in

June, 1875, her parliament passed an act prohibiting the coinage of silver indefinitely, and allowing the coinage of gold. Under this law, a gold 10-florin piece has been struck, and during the next nine months, 56 millions of florins in gold were issued, and have taken the place of an equivalent amount of silver, which has been discharged from circulation. France and the other states (Belgium, Switzerland, Italy, and Greece) constituting the Latin Monetary Union, have adopted an expectant policy, merely restricting within narrow limits the further coinage of silver, though the French minister of finance recently proposed a law authorizing the government to prohibit entirely the issue of any more silver 5-franc pieces. France, which had previously been almost drained of silver, first through purchasing cotton from India during the American war, and next by the payment of the German indemnity, has replenished her stock of that metal through the natural laws of trade, without any special legislation, but merely by contracting her paper currency, which for a time took the place of the exported silver money. She is probably deterred from adopting exclusively a gold standard, through her apprehension of the effect which would be produced in lowering the price of silver by throwing her large stock of it upon the market, in which case the cost of filling up the circulation with gold would be very considerable.

As already remarked, this action of the European governments in partially discarding silver from circulation as money has tended in two ways to increase the depreciation in value of that metal; first, by throwing large quantities of it upon the already burdened bullion-market, and secondly, by narrowing the field for its employment, and thereby lessening the demand. But to suppose that its depression in price *originated* in their action on the currency, and is entirely attributable to the measures which they adopted, would be to invert the relation of cause and effect. Rather its previous fall in value, and apprehended farther decline, caused them suddenly to demonetize it, as otherwise their general and nearly simultaneous action in regard to it would have been arbitrary and motiveless. There is no conceivable reason why they should all, within a brief period, have made haste to get rid of silver, if it had not appeared to them to be rapidly sinking in value while on their hands.

We have next to consider whether the causes which have produced the recent changes in the relative value of gold and silver are "permanent or otherwise." The question herein indicated does not admit at present of a determinate answer. We may form a somewhat loose estimate of the probabilities affecting the immediate future, perhaps for the next six or eight years; but if we attempt to look farther, or to arrive at more definite results, events as unexpected and as vast in their influence as the gold discoveries in California and Australia, or the finding of silver-ore in the Comstock lode, may falsify all our calculations. Of all human industries, mining the precious metals is the most precarious and uncertain. Legislation which is to affect interests and industries so large and complicated as those which depend upon the state of the currency in the United States, and upon the preservation of the standard of value, cannot be safely based upon vague estimates, or upon the interested statements and valuations made by large holders of stock in silver-mines; but explorations recently made upon the spot by the Director of the United States Mint, by Prof. R. E. Rogers, and other eminent geologists and mineralogists, and by mining engineers, leave little doubt that the quantity of silver-ore already partially exposed to view and measurement in the Comstock lode is enough to keep up the average

product of that metal at least to its present amount for some years to come. It is not probable, then, that the supply will soon fall off, and there are no indications that the demand for the employment of silver, either in the arts, for monetary purposes, or for exportation to the East, will again become as extensive within the next five years as it was five years ago. On the contrary, the evidence goes to show that electro-plated forks, spoons, and ornaments are already to some extent taking the place of the corresponding articles, far more costly, which contain a larger proportion of pure silver. No one expects that England, Germany, Denmark, Sweden, and Norway will soon reverse what is now their established policy, by again bringing silver into circulation as money, except for the very limited purposes of a subsidiary currency; and if not, then all these countries, excepting England, must continue for some time to be sellers rather than buyers of this metal. Moreover, the facts already mentioned make it highly probable that France, Holland, and Belgium* may soon adopt entirely the monetary policy of Germany, as they have already adopted it to some extent; and neither British India nor China seems likely soon to have again so large an excess of exports over imports as will enable either of them once more to exercise its extraordinary power of absorbing silver currency. There may be some farther reaction from the sort of panic in the market which recently depressed the price of standard silver to less than 50*d.* per ounce; but the fluctuations of value in the markets of the world caused by speculative movements or panics are of short duration and very limited extent. Silver may not again fall as low as it was in July, 1876; but it would be unreasonable to expect that it will soon recover and permanently maintain the price which it commanded in 1870.

The next subject of inquiry referred to this Commission concerns the policy of a "restoration of the double standard in this country, and, if restored, what the legal relation between the two metals, silver and gold, should be."

As the value of any commodity whatever depends primarily upon its cost of production, which is constantly varying, and secondarily upon its supply and demand, which are also extremely variable, as is shown by the incessant fluctuations of market-prices, it is obvious that there cannot be an *absolute* standard of value. Such a standard means something fixed and unchangeable, by their relation to which all other valuables may be measured. Now, there is no such commodity known; everything varies in value from one week to another, both from intrinsic causes peculiar to itself, such as its inherent difficulty of attainment, and from extrinsic causes affecting those agents, labor and capital, by which alone this difficulty can be overcome. The best that can be done is to select an approximate standard, that is, some one commodity which seems more stable than any other, and establish that by law as *the* standard by which the values of all other commodities are to be measured. Legislation is competent to do this, and practically has done it both in England and Germany, by establishing a certain number of grains of pure gold, coined either into a sovereign or a mark, and declaring that this shall be the common measure of value. But legislation is not competent to select *two* such commodities, and to declare that they shall *both* be the standard or common measure; or in other words, that there shall be a *double* standard. To attempt to do so is as absurd as it would be to declare by law that two clocks should both be the standard for measuring time, though, as everybody knows, no two clocks can be made which shall keep perfect time with each other.

* According to the latest accounts, Belgium has done so already.

This theoretical view of the matter is amply confirmed by experience. Every attempt to establish the so-called "double standard" has been a failure. The first step toward causing any commodity to become a standard of value is to make it a legal tender for the payment of debts. But though the law may declare that either of two commodities shall be legal tender, only one of them, and that the cheaper one, is actually adopted as a medium of payment. If gold and silver be the two commodities chosen, and the legal relation between them be made to conform to the ratio of their market-prices at the time of the enactment, the fluctuations of the market will speedily change that ratio; and then the overvalued one speedily pushes the other out of circulation, and becomes itself the sole standard of value. It appears from the table already referred to, showing the monthly fluctuations in London of the gold-price of standard silver per ounce, that this price remained unaltered for as long a period as four months only once in forty-three years. Usually it varied every month, and but seldom remained fixed for two successive months. But any such departure of the market-price from the relative value of the two metals as established by law must cause that one which is overvalued, or of which the nominal exceeds the real value, to displace the other and take the whole circulation to itself. Always the bad money pushes out the good, as every one will adopt the easiest and cheapest means of paying his debts.

Thus France attempted, as early as 1803, to establish a double standard, and fixed by law the relative value of the two metals at 1 to 15.5. This ratio made the legal price of pure silver to be 28.64 grains of pure gold per ounce. But for over forty years the market-price of silver did not on an average exceed 28.25 grains of pure gold per ounce, so that the law overvalued it more than one per cent. To this extent, then, in France, silver was worth more as coin than as bullion, while gold was worth more as bullion than as coin. There was a profit of about one per cent. in carrying silver to the mint to be coined, and in melting up or exporting gold. Of course, silver flowed into France and filled up the circulation, while gold coins disappeared, or could be obtained only at a premium. In those times, when one was paid even so small a sum as 1,000 francs, he received his bulky and heavy money in a canvas bag, and had to hire a porter or a cab to convey it home. During the six years before 1852, the excess of the imports of silver into France over the exports was more than 28 millions sterling.

The discoveries of gold in California and Australia about 1850 reversed this state of things, as it was foreseen that gold must fall in relative value. Hence the market-price of silver rose above its mint valuation, and consequently the amount of gold presented for coinage in France became immense, and there was a drain of silver, vast quantities of which were melted down and shipped to India. The inconvenience which resulted from the want of small change had to be met by reducing the small coinage to the state of a subsidiary or token-currency, all pieces of two francs and under being much overvalued, so that they could not be exported or melted up without considerable loss. But the silver five-franc piece was nominally retained at its old valuation, and to fill the gap caused by its practical disappearance, gold five-franc pieces were coined to a large amount. Like our own gold one-dollar coins, however, these were found to be inconveniently small, and the coinage of them ceased even before the recent depreciation of silver brought the silver five-franc pieces again into circulation. During the six years, beginning with 1852, the excess of the exports of silver from France over the imports was more than 45 millions sterling.

Hence it appears that the French attempt to establish a double standard has been a total failure. France had silver for her only standard from 1803 till about 1850, and gold for her only standard ever since. Even now, since the recent great depreciation of silver, restricting the coinage of that metal within very narrow limits is a virtual adherence to the single standard of gold. The corresponding attempt to establish a double standard in the United States resulted in a similar experience of loss, inconvenience, and failure.

A law of Congress passed in 1792 established the United States Mint, and so regulated the coinage that both 24.75 grains of pure gold and 371.25 grains of pure silver were made legal tender for a dollar. This was an attempt to establish the double standard on the ratio of 1 to 15, which was probably the actual ratio of the market-prices of the two metals at that epoch. But silver immediately began to decline in price, and before 1800 it had reached the ratio of 15.42; while in 1803, as we have seen, even the French ratio of 15.5 had become too small. Of course, the overvalued silver filled up the circulation almost entirely; the whole coinage of gold for forty years was less than twelve millions of dollars; and this little was for the most part either preserved as a curiosity, or melted up and exported. A gold coin was seldom seen, and silver was virtually the only standard. This was not the worst. As the silver dollar had been made to conform almost precisely in weight and fineness to the Spanish milled dollar, Spanish quarters, eighths, and sixteenths, usually much debased by abrasion and clipping, poured into the country through our trade with the Spanish West Indies and South America, and soon formed almost our whole fractional currency. A small Spanish coin called a *pistareen*, so much worn as hardly to be worth 17, passed current for 20 cents. Vainly did the United States Mint issue American fractional coins of full weight and value, as these were soon melted up, and the bullion sold at a high profit for the worn Spanish coins which were equally current. Never was there a better illustration of the principle that bad money invariably displaces the good.

The law of 1834 remedied these evils by actually lowering the standard more than 6 per cent., and thereby establishing the relative value of the two metals at 1 to 16. Instead of 24.75, only 23.2 grains of pure gold were coined into a dollar, and thereby the par of exchange with England, which had been about $4.56, was raised to $4.87, for the pound sterling. Moreover, as by the ratio thus established silver was undervalued about 3 per cent., gold began to be issued in large quantities and came into general use, while silver pieces of the denomination of $1 were almost entirely thrown out of circulation, and the silver fractions of a dollar were kept in use only through the necessity of having some small change, and because, being much handled, they soon lost a portion of their weight by abrasion. The nuisance of the much worn Spanish coins was gradually abated by a general refusal to accept them at more than four-fifths of their nominal value. Practically, then, the attempt to establish a double standard had resulted in lowering the whole standard more than 6 per cent., and in establishing first silver, and then gold, as the whole measure of value.

In less than twenty years, the fluctuations of price in the market again created a necessity of tinkering the so-called "double-standard" currency. Soon after 1850, silver rose so much in price that even the smaller silver coins began to be melted up and sold as bullion. It became difficult to effect small purchases, or to obtain "change" for a dollar. Congress had now to undo what it had done in 1834. But its action was

reversed, not by restoring the gold dollar to its former full weight and value, but by diminishing the quantity of silver which represented a dollar just about as much as it had lessened the quantity of gold in the dollar nineteen years before. The law of 1853 virtually surrendered the double standard, and made gold coin the only available legal tender for any debt over five dollars; for though the former one-dollar piece, containing 371.25 grains of pure silver, was not expressly demonetized, it had gone out of use, and practically remained out of use, in the domestic currency, because its value as bullion had come to exceed by about three per cent. its value as coin. But the silver fractional denominations, from half a dollar downward, were reduced to the state of a subsidiary or token currency, by so far diminishing their weight that a dollar's worth of them contained only 345.6 grains of pure silver, and by making them legal tender only for an amount not exceeding five dollars.

Thus gold was maintained as the single available standard for nine years longer, when, in 1862, the issue of an inconvertible paper currency, and making it legal tender, practically abolished every standard of value, and introduced the state of uncertainty, of wild fluctuations of prices, and consequent reckless speculation from the evil effects of which the country has not recovered up to the present day. In 1873, however, probably as a precaution against the great depreciation of silver which was even then foreseen, Congress took the last step toward the legal establishment of the single gold standard by demonetizing silver altogether, making all our silver coins legal tender only for an amount not exceeding five dollars. The gain which would accrue from manufacturing silver bullion into coins at a nominal value largely exceeding its cost was constituted a special fund for making good "the wastage;" it might properly be used to meet the heavy loss to which a silver currency is always subject from abrasion and clipping.

In the opinion of the undersigned, it is expedient to take one more step toward assimilating our system of metallic currency to that of England and the commercial world generally. By diminishing the quantity of pure gold in the dollar only three-fifths of one grain, or considerably less than half of what the law of 1834 subtracted from it without producing injury or complaint, our American half-eagle or five-dollar piece would become almost the exact equivalent of one pound sterling, and would differ only by a very small fraction from the value of twenty-five (gold) francs in France and the other States of the Latin Monetary Union, and from twenty (gold) marks in Germany. Already the English sovereign or one pound sterling is a recognized portion of the actual currency of such countries as Portugal, Brazil, and Egypt, and is practically current at its full value in every civilized country. Austria has recently coined and issued gold four-florin and eight-florin pieces, which, as practical equivalents respectively of the French ten-franc and twenty-franc coins, are easily expressed as definite portions of the pound sterling. Hence the slight change here recommended would be attended with the following important advantages:

1. It would be a long step toward establishing one monetary unit, denomination of account, and standard of value for the whole commercial world.

2. It would greatly facilitate the computation and settlement of international balances, accounts, and exchanges.

3. It would be the strongest possible safeguard for the future stability of the standard of value, as all nations would be interested in its preservation, and it could not be effectively altered without their unanimous consent.

4. In making remittances to other countries, it would no longer be necessary to melt the coins and have the bullion recoined at considerable charge in a foreign mint. The Government would no longer be put to the heavy expense of coining and recoining the same bullion, which had been first sent abroad, and then returned, through fluctuations in the balance of trade.

5. As American gold coins would be equally current everywhere with English sovereigns, New York would share at least one of the advantages which have made London the banking-house and commercial centre of the civilized world.

6. In the language of Professor Jevons, "a world-wide gold currency of unimpeachable fidelity and excellence would be obtained" alike from British, French, German, and American mints.

7. It would much facilitate our return to specie payments, the present premium on gold, 5½, being reduced immediately to about 3 per cent.

Justice, however, requires that all debts and contracts expressly made payable in gold, and outstanding on the date of the law authorizing this change in the coinage, should be discharged only by tender of dollars each containing 23.2 grains of pure gold, or by their equivalent.

After what now has been said, it is hardly necessary to consider the third subject proposed by Congress to this Commission, namely, "the policy of continuing legal-tender notes concurrently with the metallic standards." As it has been proved both by theory and experience that a *double* standard is an illusion and a failure, every attempt to establish it having led to frequent changes of legislation, and to great inconvenience and uncertainty in commercial affairs, any project for creating a *triple* standard ought to be summarily rejected as impracticable and absurd. The law may say that either a gold dollar, a silver dollar, or a paper dollar shall be indiscriminately *legal* tender; but the only *actual* tender ever made for the payment of a debt will be that one which, at the time, is the cheapest of the three. Hence the most effectual means of rapidly debasing the standard, that is, of depreciating the value of a dollar, will be to authorize any one to cancel debts outstanding against him by proffering in payment that one out of three different kinds of dollars which happens at the moment to be of the smallest value, especially when, as during the last year, the three are rapidly and largely changing their relative values. Only last July, the so-called "trade-dollar," the heaviest and most valuable one ever coined, was worth about .86, and the "greenback" paper dollar about .89, of a gold dollar. Five months later these proportions were reversed; the trade-dollar had risen in value to .94½, and the greenback to .92½, in gold. What sort of a *standard* would they have been, either separately or together, when they are liable to such fluctuations both in their relative and absolute values in less than six months? As there was no apparent change in the average price of commodities in general between July and December, 1876, we may be sure that the value of the gold dollar during that interval remained without alteration. Yet, under the attempt to create a triple standard, it is certain that the gold dollar would have been the only one which, during those five months, could not have come into use.

Whatever, then, might be the *intention* of Congress in attempting to create a double or triple standard, it is certain that the actual consequence of such attempt must be to exclude gold altogether, and to make either silver or the legal-tender note the only measure of value, and the only medium for the payment of debts. We have, therefore, merely to consider whether it is expedient and just to establish either of these two forms of money, in preference to gold, as the sole standard.

Money, properly so called, has two perfectly distinct functions to perform. It must be capable of use both as a standard of value and as a medium of exchange. It is obvious that the former of these functions is by far the more important. As to the latter, almost any commodity, even any ticket of transfer or token of debt, though without any intrinsic value, may be made to serve perfectly well as a medium of exchange, the question which of them is to be preferred for this purpose being determined solely by considering which is the most convenient. Silver, copper, nickel, bank-checks, railroad-tickets, postage-stamps, accounts-current or offsets of sales against purchases, and the like, may serve as media to facilitate the transfer of those commodities which are the only real objects of barter and sale. What is called a subsidiary or token currency, whether it be silver, copper, or nickel, is of this nature, the law affixing a definite limit both to the amount of it in use, and to the extent to which it shall be a legal tender, and also giving it a conventional, often differing from its intrinsic, relation to the real measure of value.

Far otherwise is it with the other function of money, that of serving as a standard of value, as on the proper execution of this office some of the most momentous interests of the whole community are entirely dependent. The very life of trade, and of confidence between man and man, depends on the due performance of contracts, on the successful maintenance of a system of credits, and on the anticipation of what will be the relative value of money and commodities at some future day. Very few mercantile transactions are really completed at the time when the bargains are first made, or when the commodities affected first change hands. Nearly all of them, either directly, or in their necessary and intended consequences, extend into a more or less remote future. The trader buys only in order to sell again, it may be the next week, the next month, or the next year. In every commercial community, far the larger portion of the sales which are effected are made on credit; that is, on promises of payment at some future day. And the debt thus contracted, through the agency of banks and other financial instruments, becomes itself an object of barter and sale, which are again dependent on trust in the future. Even in the case of cash-sales of commodities for speedy consumption, the purchaser's choice of the time and place for the transaction usually depends on his estimate of what prices are, or will be, elsewhere or on some other day. All such bargains, expectations, and promises must be expressed, and, if necessary, registered, in the common denomination of account—in francs, pounds sterling, or dollars; and any uncertainty as to the future value of this denomination of account must discourage individuals from engaging in the transaction, or, if not foreseen, must work hardship and injustice to them in the result. And these evils may all be caused, not only by any actual alteration of the standard within the period of time belonging to the transaction or the contract, but by any reasonable grounds of fear that within that time it *may* fluctuate in value. Any depreciation of the currency, if foreseen a few weeks before its occurrence, may be so far anticipated and exaggerated in its effects upon the market, that a very considerable rise of prices may take place some time *before* the currency is depreciated at all; and then, owing to the reaction of disappointed hopes and fears, the real depreciation, when it comes, may be contemporaneous with a considerable fall in prices. Trade thus becomes a lottery, and legitimate enterprises in commerce and manufactures must either be abandoned altogether, or kept up under a heavy cost of insurance against the uncertainty of the returns. The enhancement of prices produced

by such insurance takes place without any of that compensation to the consumers, embracing the whole laboring class in the community, which arises from a corresponding increase in their income or wages.

In the opinion of the undersigned, to adopt silver for the standard dollar, would be a greater discouragement to manufactures and trade, and would do more harm to all the great industrial interests of the country, than even the continuance of the present wretched system of an inconvertible paper currency. Not only during the last year has silver undergone greater and more rapid fluctuations in price than paper, but the causes of its fluctuation are more difficult to be discovered, and less controllable, because wholly out of reach by legislation. By a very moderate and gradual contraction of the legal-tender currency, it is certain that Congress can prevent the paper dollar from sinking below its present value, and, by a few other well-considered measures, can steadily raise its value to par without spreading alarm, or creating any disturbance in the markets, or perilling any interest but those of the stock-jobbers, even before the time now fixed by law for the resumption of specie payments. But in view of recent experience, who can tell what the price of silver will be six months hence, or what legislative enactment can increase or diminish that price a single penny? As well might a legislator attempt by taking thought to add one cubit to his stature. Yet the only apparent motive for urging the adoption of a silver standard in the United States, at the very time when all Europe seems to be on the point of discarding it, is the vain expectation that an act of Congress may have the effect, in the stock-jobbers' phrase, of *bulling* the price of silver throughout the markets of the world. Granted that such an act might create a market for the silver which still remains to be sold by Germany and other European countries, it certainly could not restrict the productiveness of the mines in the Comstock lode, or restore to British India and China their former power of absorbing the surplus silver of the civilized portions of the globe. It would not be becoming for the dignity, as it certainly would be prejudicial to the interests, of the United States to engage in an operation equivalent to stock-jobbing, by making heavy purchases on a falling market of a commodity generally discredited elsewhere, in the idle hope of raising and controlling its price. The benefits of such an operation, if any, would be reaped only by the stockholders in silver mines, while the inconvenience and loss would be sustained by the people.

There are special reasons why silver is less eligible than gold for the chief place in a metallic currency. Its weight and bulk are too great in proportion to its value, so that it is very inconvenient for use in large transactions, and for the settlement of international balances. Its proper place is a subordinate one, being well fitted for small retail purchases and adjusting the fractional portions of accounts. And this place, as a subsidiary or token currency, seems to be now determinately marked out for it throughout Europe. We learn from the Director of the United States Mint, that one million of dollars in gold coins weighs 1 ton, 16 hundred-weight, 86 pounds; while the same value in "trade dollars" amounts to 30 tons, and in subsidiary silver coins to a little over 27 tons, 11 hundred-weight. Any one who was in France about 1840, when silver was virtually the only standard, and no bank-bills were in use of a less denomination than one hundred francs, will remember how burdensome and inconvenient this form of money seemed.

Another and more serious objection to the use of silver currency is its liability to considerable loss of weight and value by abrasion and

clipping. Gold coins are but little exposed to deterioration from these causes. Having considerable value in small bulk, they are closely scrutinized when offered in payment, and if light in weight are rejected, so that worn and clipped coins, so to speak, never get a foothold in the currency. But silver pieces, especially the fractions of a dollar, because their value is comparatively trifling, are not closely examined, and so still pass current, though their original value has been much impaired.

By a careful and extensive series of experiments, weighing a large number of (gold) sovereigns taken at random from those which had been a long or short time in circulation, Professor Jevons ascertained that the loss by abrasion on each coin was almost always exactly proportional to the number of years it had been in use. He was thus enabled further to ascertain, that the average annual loss of weight by each sovereign was forty-three thousandths of one grain. In twenty-six years of use, therefore, it will have lost by abrasion about one per cent. of its value. In the same manner, he found the average annual wear of the *half*-sovereign to be sixty-nine thousandths of a grain, or more than half as much again as that of a whole sovereign. The smaller coin, therefore, loses by friction one per cent. of its value in about sixteen and a quarter years, this greater loss being attributable to its exposing more surface in proportion to its weight, and to its being more rapidly handled in purchases at retail.

We do not know that any equally careful experiments have been made to ascertain how much silver coins lose annually by abrasion, but a tolerably good estimate may be formed by comparison of the two cases. Other things being equal, the loss will be proportioned to the amount of surface exposed to friction, and also to the frequency and carelessness with which the coins are handled. Now, a shilling exposes to wear about as much surface as a sovereign, and therefore, from this cause alone, a pound sterling in silver shillings will lose annually by abrasion twenty times as much as the same value in one gold piece. Moreover, in the numberless petty transactions of every-day life, shillings are circulated far more rapidly and carelessly than sovereigns, and their consequent loss by friction must thus be much increased. Then the estimate formed by the best authorities seems a reasonable one: that the annual loss on silver coins by abrasion is at least 1 per cent.

Hence it appears that the cost of repairs, the difficulty of maintaining the currency in full weight and good condition, is at least twenty-six times as great for silver coins as for gold ones. If the government neglects its duty of making good at considerable expense this annual deterioration by wear, the state of a silver currency soon becomes deplorable. After some years of ordinary active use, the coins betray their loss of weight by their worn and defaced appearance, and the evil is increased and made universal by dishonest persons, who pick out from the circulation the pieces freshly issued from the mint, and others which happen to be less worn, and by punching or clipping reduce them to the average, or below the average, of debasement. Also, as the coins now pass perhaps for 10 per cent. more than they are worth, foreign silver coins of inferior weight are attracted from neighboring countries to a place where they are current for a higher value than they possess at home; and the task of expelling these intruders is by no means an easy one. Already, though our fractional silver currency has been but very recently restored to use, worn Canadian and Spanish "quarters" and punched American coins have begun to appear in circulation. If remedial measures are not adopted, our silver currency will soon be again in as bad condition as it was just before 1830, or as that of England before the recoinage of

1696, or as that of Germany before her abandonment of the silver standard in 1873.

The evil in question is not so considerable, and a remedy for it is not difficult to be had, if silver be restricted to its only proper monetary function, that of furnishing a subsidiary or token currency. No one is then obliged to receive the deteriorated coins except to the small amount for which they are legal tender; and as the whole quantity in circulation is not very great, and the Government have reaped a large profit by issuing it at a rate considerably above its intrinsic value, this profit may properly be made a fund for defraying the expense of constantly withdrawing the light coins and filling the vacuum with others of full weight fresh from the mint. In this way, England and France of late years have kept their subsidiary silver coins in perfectly good condition, the former country usually issuing new and perfect pieces each year to the amount of £3,000,000, yet without at all increasing the volume of this portion of the currency, because old and worn coins to the same amount are withdrawn.

But if silver is made legal tender for any amount whatever—and that is what the project of a double or triple standard means—gold will disappear from circulation, no fund will be available to defray the considerable cost of annual repairs, and both the United States Treasury and the country generally will be reduced to the condition in which British India is already placed, with heavy liabilities both abroad and at home, which are payable only in gold, but with taxes, wages, and dividends receivable in a metal which may again, as during the last year, lose 16 per cent. of its value within six months.

A few persons who do not understand the subject imagine, that if the mint and the Treasury be required, under the system of a double standard, freely to exchange gold dollars for silver ones at par, or the reverse, whenever such exchange is demanded, then neither metal could fall below the value of the other. Certainly it could not, within the limits of the country foolish enough to act thus, and during the few weeks which could elapse before its mint and treasury would be drained of their last gold dollar. For, suppose the price of silver should fall in the London market only 2 per cent. below its former value relative to gold; then any person, by shipping thence $980,000 worth of silver bullion, could receive for it here one million of gold dollars, and could repeat this operation indefinitely, or until stopped by the bankruptcy of our mint. A compulsory union of the dearer metal with the cheaper one could permanently establish an equality of value between them only if the unequal marriage were sanctioned by all the nations of the earth. But, as probably both England and Germany would at once forbid the banns, this project of M. Czernuschi is not likely to be soon carried into operation.

The undersigned sees no objection, however, to a considerable enlargement of the limits within which the subsidiary silver currency is now issued and made a legal tender, paper money being withdrawn to an extent equivalent to the enlarged issue thus made, as has been already done in the case of the silver fractions of a dollar, so that the aggregate volume of the currency shall not be increased. An important step would thus be taken toward a resumption of specie payments, and a reasonable concession would be made to those who desire a larger use of silver money. Dollars might be coined each containing 345.6 grains of pure silver, be made legal tender to an amount not exceeding twenty dollars, and be issued only in exchange for paper money, whether greenbacks or national-bank notes, of any denomination below five dollars,

the notes thus received in exchange being immediately cancelled and destroyed. A burdensome redundancy of silver thus thrown into circulation might be prevented by making it receivable by the Treasury to any amount, in payment of all dues to the Government which are not by law made payable only in gold. These silver dollars would be a convenient and unexceptionable medium of exchange, and as they would not be a standard of value, they could not introduce any uncertainty about the just fulfilment of contracts. They could not be melted up or exported without loss, and as receivable by the Government to any amount, they could not become depreciated in the market. The amount of one-dollar and two-dollar notes now in circulation is about sixty-five millions of dollars. These would all be gradually withdrawn, and their place would be filled by silver coin in all retail transactions.

We come now to the last subject which this Commission is required to consider, namely, "the best means for facilitating the resumption of specie payments." In the opinion of the undersigned, the two measures already herein proposed would go far toward accomplishing such resumption without creating any disturbance in the markets, without any injurious shock of sudden transition, and without harming any class or interest that can rightfully claim to be protected by the Government. Each of these measures is a concession to one or the other of the only two parties who now appear to be hostile to such resumption. Reducing the quantity of pure gold in the dollar to 22.6 grains, through bringing it so much nearer the present value of the legal-tender (greenback) note, favors those of the indebted class who fear that resumption will make it more difficult for them to pay their debts. Substituting silver for all notes below the denomination of five dollars will be as large a measure of protection to what may be called "the silver interest" as can reasonably be asked from Congress. Should these two recommendations be adopted, it is reasonable to believe that the premium on gold would continue to decline as fast, and also as uniformly and innocuously, as it has done since March 9, 1876; and since its fall within ten months after that date from 15 to 5½ per cent., so far from creating any injury or disturbance, has been attended with a considerable growth of confidence and revival of trade, there are no grounds for apprehending any evil consequences through its further decline from 3 per cent. to zero. The paper dollar having thus risen to its par value, specie payments might safely be resumed some time before the period now fixed by law, as the amount of surplus gold already in the Treasury would be quite sufficient to meet the very moderate demands which would then be made upon it to redeem its notes.

In order to make sure of this further decline, however, and also to diminish what would still be the excessive volume of paper currency, the Secretary of the Treasury should be enabled and required gradually to lessen the amount of it in circulation. He is already authorized to sell United States bonds for gold as a means of providing for resumption, and also to sell the gold so obtained and receive legal-tender notes in payment. These notes he should be required to destroy, to the amount of three millions of dollars a month, none others being issued in their place. This would only be to continue, under the authority of law, the same rate of contraction which has spontaneously taken place during the last twenty-two months. These preliminary measures being adopted, Congress might safely and justly repeal all laws which "make anything but gold and silver coin a tender in payment of debts."

It is evident, then, that the accumulation of more gold in the Treasury is not a necessary means or preliminary for the resumption of specie

payments. The legal-tender notes originally issued in payment of debts due *from* the United States, are redeemed and discharged when received as an equivalent for the same amount of debts due *to* the United States, none others being issued in their place. In fact, the process of redemption is constantly going on through the receipts from internal taxation and other sources; and this process is made final, simply by not paying out again these notes or any others, and by making what provision may be necessary to discharge the ordinary obligations of the Treasury, either by imposing additional taxes or by the sale of bonds. During the last fiscal year, about one hundred and twenty-five millions of these notes were received as internal revenue and from the sale of the public lands; and if none others had been issued in their place, resumption would, before this time, have been complete, and accomplished, too, by a process so gradual and harmless that none but those who closely watch the financial operations of the Government would have been aware that anything unusual was going on.

What is to be feared from making silver an unlimited legal-tender is not so much a depreciation of the standard of value, as the recurrence of sudden and great fluctuations in the market-prices of commodities, and of reckless speculation in commerce, mining, and manufactures, which are properly attributable, as in the case of paper-money, to having no standard at all. What we dread is not the *fall*, but the *fluctuation*, in value of the would-be standard, and the feeling of uncertainty thereby produced; and this dread is only confirmed and enhanced by the recovery in the market-price of silver, within the last six months, from about 47*d.* to 58½*d.* an ounce, being about all that it had lost during the earlier part of the year 1876. Against this uncertainty, and its depressing effect upon all legitimate enterprise, industry and trade, nothing can protect us. The discovery of more *bonanzas* in the Comstock Lode, the further demonetization of silver by France and Holland, or a still more unfavorable balance of trade in British India, may send the price of that metal down again during the next half year lower than ever. With such a contingency hanging over it, commerce does not start into full activity and industry is paralyzed.

Those who still fear that a resumption of gold payments would be prejudicial to our financial interests, and do wrong as well as harm to the indebted classes, ought to learn from the experience of the last three years, and especially from that of the year which has just ended, that their apprehensions are groundless. The war-prices, the wild speculations, and excessive personal expenditures, which had been created and fostered by the immense issues of paper money in 1864 and 1865, and maintained by the convulsive efforts of those who had been enormously enriched by these events, reached at length their inevitable issue, and came to an end all at once in the crises of September, 1873. More than ever before during the present century, rents and prices fell, real estate ceased to be marketable, merchants went into bankruptcy, railroads passed into the hands of receivers, manufactories stopped, the incomes of persons not in active business but living on their private means were cut off, and the laboring classes were thrown out of employment. Great as was the calamity, however, after the storm had cleared the air, a revival would probably have begun in less than a twelvemonth, as had been the case in all former commercial crises, had not the Secretary of the Treasury so far strained his authority beyond all law or precedent as to throw upon the market, without any express sanction by Congress, an additional issue of twenty-six millions of paper money, with the threat that it might be followed by eighteen

millions more. Then, indeed, people did not know what to expect; confidence broke down entirely; capitalists preferred to allow their funds to remain idle, rather than to make loans which might be repaid in dollars not worth half as much as those which had been borrowed, and what might have been merely a temporary convulsion, followed by the glow of reviving health and strength, passed over into that general paralysis of trade and industry which we have witnessed during the last three years.

Experience has demonstrated that the cause of this prolonged evil, which has brought multitudes of industrious and deserving persons to the brink of penury and ruin, was not what the inflationists call a lack of money. When the calamity was at its height, as it was throughout 1875 and the early part of 1876, there was no lack, but rather a superabundance, of money, the banks and the capitalists having more than they knew what to do with. Hence they were eager to let it on undoubted security, such as Government stock, and *on call*, as the phrase is, so that there would be no time nor opportunity for its depreciation, at as low a rate as 3 or even as 2½ per cent. With a circulation then amounting to nearly seven hundred and forty millions of paper dollars, which at that time were worth about 87 cents apiece, and which, because commerce and industry were paralyzed, were freely offered on call at 3 per cent. interest, it would surely have been absurd to call for the issue of "more money" as a means of rescuing the country from its difficulties.

At length, especially during the latter half of the year 1876, the evil began to cure itself, and that, too, by means which clearly indicate that the undue inflation and consequent fluctuating value of the currency had been the sole original source and the aggravation of the difficulty. Spontaneously, without any aid from legislation, or any concert between individuals or the banks, the paper currency began to contract itself. Unable to make any profitable use of their funds, because credit was dead in the community, and the wings of enterprise were clipped, many of the banks voluntarily surrendered their circulation altogether or in part, and either retired from the business, or confined their operations to what are the only two proper functions of a banking institution, those of deposit and discount. They were thus relieved from some heavy taxes, and were able to withdraw their United States stock, deposited as security to redeem their circulation, and by selling this stock at the advanced prices which it commands in the market, because payable in gold only, to make greater gains than were possible from lending their own notes at three per cent. interest. Though the act of January 14, 1875, repealed all limits to the *increase* of national-bank circulation, and thereby invited a further inflation of the currency, it appears from the last report of the Comptroller of the Currency, that the total *decrease* of legal-tender notes and national-bank notes between January 14, 1875, and November 1, 1876, has been over forty-five millions of dollars. And this process of diminution is still going on, the amount of legal-tender notes on deposit with the Treasurer for the purpose of still further retiring bank-notes being, on November 1, 1876, nearly twenty-one millions, so that the aggregate amount of paper money voluntarily withdrawn from circulation in less than twenty-two months has been about sixty-six millions, or nine per cent. of the whole quantity in use.

And what has been the consequence of this spontaneous contraction of the paper currency? The paralysis of credit and industry is passing away, and commerce to a marked degree has begun to revive. A very favorable balance of trade has reduced the rates of exchange on England

considerably below par, and gold has constantly flowed into the country to an unprecedented extent. According to the estimates of the Director of the Mint, the amount of coin and bullion in the United States on June 30, 1876, was over one hundred and eighty-one millions, of which about thirty millions were silver. As the imports of gold during the autumn of 1876 were immense, owing to the favorable balance of trade, and as the mines of both the precious metals during the same period were very productive,* there can be no doubt that the quantity of the precious metals in the country on January 1, 1877, was at least two hundred and twenty millions. In the opinion of the undersigned, that sum is a sufficient basis on which specie payments could be maintained without difficulty or disturbance, even if resumption should take place at a very early day. For the effect of such resumption would be to rescue this specie from its present semi-latent state, employed only in foreign trade and in certain limited transactions with the United States Treasury, and bring it once more into full use *as money*—as a constituent part of the active circulation of the country. So brought back, it would even more than fill the gap caused by the partial withdrawal of paper currency, and in this way, combined with its effect in still further restoring confidence, and putting more heart into trade and manufactures, the probable immediate effect of resumption would be to raise the prices of commodities generally, instead of depressing them, and thus actually to favor the indebted States, and, generally, the indebted classes of the people.

Turn the matter as we may, the chief cause of the evils under which for three years the country has suffered, has been impaired credit, and the want of trust in the future. It has been the absence of any fixed standard of value, and the uncertainty in the markets caused by the fear lest Congress should again inflate the paper currency. Who were the greatest losers by this deplorable state of things? Not the creditor class, surely; not the capitalists; not the owners of unencumbered houses and lands, and Government gold-paying stocks, and fully constructed and equipped railroads, which are still paying dividends, though at reduced rates. These have something to fall back upon; their incomes are diminished, it is true, and sometimes cut off altogether; but they can still subsist for a long time, even on their dead capital. But the indebted and industrious classes have no shelter behind which they can retire for a season. They are exposed at once to the whole violence of the storm. For them, the inevitable result of the withdrawal of credit, the consequent embarrassment of trade, and the crippling of every industrial enterprise, is privation of employment, hopeless insolvency, and ultimate ruin. No persons in the community would be so much benefited by the restoration of a fixed standard of value as the industrious and dependent classes. For them, the certainty that the dollar will be worth a month or a year hence precisely what it is worth to-day means regular employment, a fixed rate of wages, a stable market, moderate but certain gains, and the absence of all anxiety for the future.

The South and West, already largely indebted to the Eastern and Middle States, are still in urgent need of further advances of capital from the same source in order to develop still more their unrivaled opportunities, their boundless stores of latent wealth. The paralysis of business throughout the country is specially detrimental to them, as they have no reserves to fall back upon, no stores of capital already

*According to Dr. Linderman, "the domestic production of gold and silver during the fiscal year (ending June 30, 1876) was about 85½ million dollars, of which amount 46¾ millions were gold, and 38¼ millions silver."

amassed, which they can afford to suffer to remain idle for a time, till the returning tide of confidence and enterprise shall again set the wheels of industry in motion. Nearly all their current gains from improvements already completed are absorbed in paying the interest on the mortgages and bonds which represent the advances previously made to them, being the price of most of the prosperity which they have hitherto enjoyed. Many of the people that are now clamoring for more inflation of the currency, think that the increase in the number of paper dollars, and the consequent inevitable depreciation of their value, will both make it easier for them to pay the interest on their debts already contracted, and so far revive speculative interest as once more to irrigate their fields with the inflow of capital from the East. But even a child might see that these two contemplated results are incompatible with each other. One who is already deeply in debt cannot pave the way for obtaining the additional loans that he needs by announcing of his own accord that he is in a state of spontaneous and chronic bankruptcy, that he will not at the utmost pay more than 93 cents on the dollar, and that he has taken steps to make sure that even this dividend shall rapidly be diminished, only leaving it uncertain whether it shall early or late be reduced to nothing, and the debt consequently be repudiated altogether. Capitalists must be singularly constituted who will grant fresh loans to debtors openly announcing such conditions.

There is a grave question indeed whether the national honor is not even now tarnished by the mere fact that specie payments have not been already resumed. By the act of March, 1869, entitled "An act to strengthen the public credit," the faith of the United States was "solemnly pledged" "to make provision, *at the earliest practicable period*, for the redemption of the United States notes in coin." The amount of legal-tender notes outstanding on November 1, 1876, was $367,535,716. But it appears from the following table, for which I am indebted to the kindness of the Secretary of the Treasury, that, after discharging all the obligations of the United States already due which are payable only in gold, the Government sold at public auction, between July 1, 1869, and September 30, 1876, surplus gold to the amount of $389,705,144.68, on which it received a premium of $58,020,155.53. In view of the fact that the surplus gold thus disposed of exceeded by over 22 millions what was necessary to redeem all the legal-tender notes outstanding, how can it be said that Congress has kept its solemnly-pledged word that it would redeem those notes "at the earliest practicable period"? The paper money received from that sale of gold was not needed in order to provide for the other necessary expenditures of the Government; for it appears that, during the period in question, after defraying all the ordinary expenses, the Treasury paid off public debt not yet due to an amount exceeding 435 millions of dollars.

Amounts of surplus gold sold by the United States Treasury from July 1, 1866, to October 1, 1876, with the premiums received thereon.

Period.	Amount sold.	Premium received.	Average rate per cent. of premium.
From July 1, 1866, to June 30, 1867	$38,337,928 78	$14,154,843 55	37
From July 1, 1867, to June 30, 1868	54,209,653 79	21,934,986 54	41
From July 1, 1868, to June 30, 1869	32,013,258 45	12,376,289 38	39
From July 1, 1869, to June 30, 1870	65,081,516 50	15,294,137 37	24
From July 1, 1870, to June 30, 1871	72,423,042 03	8,892,839 95	11
From July 1, 1871, to June 30, 1872	77,597,495 70	9,412,637 65	12
From July 1, 1872, to June 30, 1873	76,993,246 54	11,560,530 89	15
From July 1, 1873, to June 30, 1874	38,013,974 80	5,037,665 22	13
From July 1, 1874, to June 30, 1875	33,401,526 42	3,979,279 69	12
From July 1, 1875, to June 30, 1876	25,092,251 44	3,773,545 80	15
From July 1, 1876, to September 30, 1876	1,102,111 25	119,518 96	11
Totals*	514,265,985 70	106,486,275 00	21

* Also, in May and August, 1876, there was a further sale of gold received under the Geneva award, amounting to $8,374,714.78, on which a premium was obtained of $1,014,223.85, or nearly 12 per cent.

Summing up, the following are presented as the conclusions of this report:

1. The great changes which have taken place during the last year in the relative value of the two precious metals are attributable almost entirely to fluctuations in the market-price of silver, since the prices of commodities generally, reckoned in gold, have been comparatively stable.

2. These fluctuations indicate a considerable fall in the value of silver, which has been produced by three causes: 1. By the great productiveness of the silver-mines in the Comstock lode, which within a few years have doubled the average annual product of that metal for the whole world; 2. By a great diminution, within the last five years, of the demand for silver to be exported to British India; 3. By the demonetization of silver, within the same period, by Germany, Denmark, Sweden, and Norway, and the limit put upon the coinage of it by Holland, France, and the other states of the Latin Monetary Union.

3. These fluctuations prove that silver has become entirely unfit for use as a standard of value; and this action of Germany and other European states shows that they have become aware of this unfitness, and have altered their systems of coinage and legal-tender accordingly.

4. The question whether the three causes here alluded to have *permanently* depreciated the value of silver is one which does not at present admit of a determinate answer. Vague estimates and uncertain theories afford no safe grounds for legislation.

5. The so-called double standard is an illusion and an impossibility. The prolonged attempts made both by France and the United States to establish such a standard have been complete failures, causing much confusion and inconvenience, necessitating frequent changes of legislation, and resulting only in the alternate establishment of one or the other precious metal as the sole standard.

6. Silver is further unfitted to be the principal medium of exchange, 1, through its considerable weight and bulk in proportion to its value, being thus inconvenient for use in large transactions and settling international balances; and, 2, through its constant liability to loss by abrasion and clipping, the corresponding loss in the case of gold being so small as to be almost imperceptible.

7. The proper place for silver in a monetary system is that of a sub-

sidiary or token currency which is considerably overvalued by law and made legal tender only within certain limits. These limits being indeterminate except by general considerations of expediency, there is no valid objection to so far widening them as considerably to increase the amount of silver now in circulation, paper money being withdrawn to an equivalent amount, and the silver coins being made legal tender for any sum not exceeding twenty dollars.

8. The proposed "policy of continuing legal-tender notes concurrently with the metallic standards" would be in the highest degree inexpedient and unjust, this paper-money system having been the chief cause of the paralysis of trade and industry under which the country has labored for the last three years, and Congress having, as far back as 1869, solemnly pledged the faith of the country for the resumption of specie payments at the earliest practicable moment.

9. Circumstances at the present time have made such resumption both practicable and easy within a very brief period, the paper currency having spontaneously contracted itself at the average rate of three millions a month during the last twenty-two months.

In order to complete this very desirable result, and to make our monetary system conform in all important respects to that of the most prosperous, and best-ordered commercial countries of Europe, the following measures are respectfully recommended for adoption by Congress:

1. That dollars be coined each containing 345.6 grains of pure silver, which shall be legal tender for any sum not exceeding twenty dollars, and shall be issued only in exchange for paper currency below the denomination of five dollars, and the one-dollar and two-dollar notes so received in exchange shall be immediately canceled and destroyed. These silver dollars, however, shall be receivable to any amount in payment of any dues to the Government, except for duties on imports. After January 1, 1878, notes below the denomination of five dollars shall not be paid out either by the Treasury or the banks, and shall not be legal tender.

2. Gold shall in future be coined only at the rate of 22.6 grains of pure gold to the dollar, so that the half-eagle or five-dollar piece may be almost the exact equivalent of one pound sterling; and the gold so coined shall be legal tender to any amount: *Provided, however*, That all debts and contracts expressly made payable only in gold, and outstanding on the date of this enactment, shall be paid and discharged only by dollars each containing 23.2 grains of pure gold, or by their equivalent.

3. Out of the paper currency received by the Government in the collection of its internal revenue, a sum not exceeding three millions of dollars each month shall not be re-issued, but shall be canceled and destroyed; and any deficit which may thereby be created in the Treasury shall be supplied in the manner already authorized by law, namely, by the sale of any of the United States bonds which the Secretary of the Treasury is now empowered to issue.

All of which is respectfully submitted by

FRANCIS BOWEN.

I concur in foregoing report of Mr. Bowen.

R. L. GIBSON.

SPECIAL REPORTS OF THE SECRETARY OF U. S. MONETARY COMMISSION.

The secretary, George M. Weston, having been directed by the Commission to investigate and collate the facts, authorities, &c., relating to the special subjects named below, prepared the following papers:

	Page.
Asiatic trade and the flow of silver to the East	163
Constitutional powers of Congress and the States in respect to metallic money	180
Legislation in Europe and the United States in relation to subsidiary silver coins	194
The trade dollar	200

SPECIAL REPORTS.

ASIATIC TRADE AND THE FLOW OF SILVER TO THE EAST.—ENGLISH MISCONCEPTIONS.

Of current British writers known on this side of the Atlantic, Jevons alone seems to have an adequate idea of the importance and reliability in the future of the eastern demand for silver. Many leading British writers entirely misunderstand the causes which give rise to this demand, which is an essential element in fixing the value of silver, whether measured in gold or in general commodities. These mistakes of British economical authorities will be found to be remarkable both in character and persistency, and they undoubtedly constitute the principal origin of the delusion that the general tendency of silver is towards depreciation, which prevails largely in England, and which Seyd and other English advocates of the double standard do not wholly escape.

The most authentic exhibition of the errors current in London in recent years in respect to the general nature of the trade between Europe and Asia is to be found in the annual reviews of finance and commerce in the London Economist, the principal portions of which have been regularly reprinted in the journal of the London Statistical Society as possessing a high, recognized, and permanent value.

As respects the special case of India, it may safely be assumed that the current ideas of England are authentically expressed, not only in the London Economist, but in the report of the British Silver Commission of 1876, the chairman of which, Mr. Goschen, seems to be regarded in that country as one of its most eminent financiers, both in practical experience and in clearness and breadth of theoretical views, and in the resolutions of the governor and council of India, (September 22, 1876,) which cover the entire subject of the monetary relations of India with the world, and especially with Great Britain.

OPINIONS OF THE LONDON ECONOMIST.

REVIEW OF 1864, PRINTED MARCH 11, 1865.

In four years the imports from India and the Levant have certainly doubled in value These are countries of exceedingly backward civilization. Hitherto, the native cultivators have had few wants, and have been so ignorant of the real principles of trade as to regard gold and silver as precious beyond all other things, and as fit only to be buried in secret hoards, instead of being put away as rapidly as possible in exchange for articles of use and enjoyment. A trade, therefore, of imports from these countries, suddenly doubled in volume, necessarily implied the transmission of a large part of the price in specie and bullion; and so it actually happened. The average annual export of treasure to India and the Levant for the five years 1857–'61 was 13¼ millions sterling; the average export of 1863–'64 was 23 millions.

A free and vigorous commerce is potent to arrive rapidly at a state of things in which trade, even with very backward countries, *becomes the barter of one set of commodities for another set of nearly equal exchangeable value.*

The probability seems to be that in 1865 the action of the eastern demand for bullion remittances will be on a much more restricted scale than in 1863–'64; and that the taste already excited in those countries for articles of English production will have laid the foundations of a commerce as regular as that with America or France.

The immense wealth poured into Bombay and Bengal during the last two years has apparently at last broken down most of the barriers to the reception by the natives of thoroughly European notions of commerce.

REVIEW OF 1865, PRINTED MARCH, 1866.

The great rise in the price of cotton led to large and urgent orders to India and elsewhere for further and early supplies, and such orders of necessity implied considerable remittance of treasure, and that treasure chiefly in the form of silver, to be purchased on the continent by means of gold sent there from this country.

The four countries or regions which have been most profoundly affected by the demand for cotton at high prices have been India, China, Egypt, and Brazil.

Year.	Merchandise imports from India, China, Brazil, and Egypt.	Merchandise exports to India, China, Brazil, and Egypt.
	Millions stg.	*Millions stg.*
1864	94.6	38.3
1863	83.6	32.7
1862	62.9	24.8
1861	42.1	29.1
1860	37.0	30.3

The peculiarity of these figures is the amazing increase they exhibit of nearly sixty millions sterling in the *imports* from India, China, Brazil, and Egypt against an increased export of no more than eight millions sterling. For five years we have been laying widely and deeply the foundations of a vast future trade with those fertile tropical countries. We found the people who inhabit them rude, ignorant, without enterprise and with few wants, but the golden (silver) shower which has descended so plentifully upon them since 1860 has already had some effect, and it is quite certain that the increase of eight millions in the export is only the beginning of a demand which will *presently reduce the trade to the sound condition of an exchange of merchandise representing values not very widely different.*

REVIEW OF 1866, PRINTED MARCH, 1867.

The large drain of gold and silver to Egypt, India, and the East, which has been in progress since 1861, chiefly in payment of cotton, came to an end in March and April last, (1866.) The total export from Europe was nine and a half millions, or one-third less than the export (fourteen millions) of 1865.

For five years the tide of the precious metals has run so strongly and constantly toward the East that the supplies from the gold countries have been absorbed for that destination as quickly as they appeared. *We shall now see a different state of things.*

REVIEW OE 1867, PRINTED MARCH, 1868.

The revival of the cotton cultivation in America has already reduced the export of gold and silver to India to a narrow compass. Instead of the enormous drain of twenty-four millions sterling in each of the years 1863 and 1864 and of fourteen millions in 1865, the exports fell to ten millions in 1866, and in 1867 to the comparatively small sum of three and a half millions.

A few years will enable us to judge of the effects on the Indian populations of the prodigious prosperity of the last five years. The railways will have effectually opened up new markets in the interior, and will have carried European goods where they never appeared before, and the improved means and wages of the cultivators will enable them to buy articles formerly beyond their reach. All these influences will powerfully tend to *make European exports to India more nearly balance than hitherto the European imports from it,* and will, therefore, reduce the trade to such an exchange of commodities as will require but small supplemental transmissions of specie. It is, indeed, conceivable that at no distant period the current of the metals might tend more strongly *from* India than *to* it.

REVIEW OF 1868, PRINTED IN 1869.

The Abyssinian war has led to a large increase in 1868 in the export of gold and silver to Egypt and the East. The total exports by English and French steamers were—

In 1867	£3,695,000
In 1868	10,075,000

Of this six and one-third millions of increase, nearly four millions is due to the Abyssinian war. The slightly increased exports to India have arisen from the revived demand for Indian cotton.

The effect of the cessation of the bullion drain to the East early in 1866 is strikingly shown in the rapid rise of the total bullion reserves of the Bank of England and the Bank of France.

* * * * * * *

In India, a system of sound paper currency has been established, which, in the course of twenty years, may, by remote possibility, lead to a real economy of coin in that country. At present, the bank-notes are less than ten millions sterling, probably not a thirtieth part of the circulation of the presidencies.

REVIEW OF 1869, PRINTED MARCH, 1870.

In 1869, there has been no Abyssinian war to swell the exports of gold and silver to Egypt and Bombay, but the figures are nevertheless not very different—say nine millions in 1869 against ten millions in 1868.

The peculiarity of the 1869 figures is the large increase in the *silver* and the falling off in the *gold* shipments.

During the ten years 1860-'69 the total export of gold and silver (chiefly the latter) from Europe to *China* has amounted to about twenty millions sterling. But this sum represents only about half the influx of the precious metals into China, inasmuch as the import into that country from California is believed to be nearly as large as the import from Europe.

The effect of the improved condition of India, the higher wages, and the cheaper modes of transit, has already extended the Indian markets for English goods, *and so set in action a train of causes likely to diminish permanently the drain of gold and silver to the East.*

REVIEW OF 1870, PRINTED MARCH, 1871.

The bullion trade with India has fallen into small proportions. In 1863 and 1864 the export of gold and silver to India and China was 24 millions sterling per annum; last year, 1870, it had fallen to 4½ millions, and a reflux from the East to Europe has actually been witnessed in mercantile calculations of exchange. *It is not unlikely that this reflux current will expand and continue.* During the twenty years 1851-'70, Europe has sent to the East 51 millions sterling of gold and 176 millions sterling of silver—together 227 millions, or an average export of (say) 11 millions per annum. The annual production of gold from the new sources, California and Australia, has been about 15 millions sterling. The eastern demand has amounted, therefore, to over 70 per cent. of the new production. The Australian and Californian supplies seem to be gradually but steadily diminishing, and there is an apparent probability that the effect of the development of India may be *to render the hoards of treasure possessed by the nations available for western purposes, and available at the very time when they are needed.* This result will be assisted by the steady progress of the bank-note circulation of India. The authorities have quite recently satisfied themselves that the bank-notes may be pushed more vigorously into circulation, and that the minimum denomination may be reduced from ten to five rupees.

REVIEW OF 1871, PRINTED MARCH, 1872.

We give our usual table of the movement of gold and silver to the East. There has been some revival in 1871 of these exports, and the total reaches 6¼ millions against 4⅓ millions in 1870.

The higher prices of cotton will lead to augmented remittances to India.

REVIEW OF 1874, PRINTED MARCH 13, 1875.

Mr. Herzog, the delegate of Switzerland to the Monetary Conventions of 1865, 1871 has investigated the subject [silver] with care. He lays stress on the diminution by one-half since 1866 of the export of silver to the East, *arising from the advancing diffusion of European goods over the Asiatic countries.*

All the predictions of the Economist as to the course of the Asiatic trade have been falsified by the event. The flow of the metals to Asia is still as active as ever. The Economist entirely overlooks the real cause of this flow, and nearly all which it has to say about it is quite aside from the mark.

Asia was called "*a sink of silver*" in the time of the Romans, but if the view is limited to the past four centuries, the reasons why it is a sink of silver, and to some extent of gold also, will more clearly appear, because the facts of these later centuries are more exactly known.

Since 1492 the great bulk of the supply of the precious metals has been from the New World. Chevalier estimates that from the voyages of Columbus to the California gold discoveries the world's metallic supply was derived—

From the Old World	$1,072,000,000
From the New World	7,259,000,000

Since the California gold discoveries, from 1849 to 1876, both inclusive, taking the mean of the figures given by accepted authorities, the world's metallic supply was derived—

From the Old World	$327,000,000
From the New World	3,755,304,927

In the New World, in this last statement, Australia is included.

Since 1492 the flow of the precious or money metals has been continuous from the New to the Old World, and could not have been otherwise. The flow of those metals is determined by the tendency, always at work, of prices to an equilibrium. Nothing but an impassable Chinese wall could have prevented the outflow from Australia of the bulk of the $1,200,000,000 of gold produced there within the past twenty-five years. If such a wall had existed, the principal part of this gold would not have been produced, as the wages of labor would have risen so high that the cost of the gold would have exceeded its exchangeable value. No such wall exists in this case, and therefore prices are only kept high enough in Australia, relatively to prices elsewhere, by the production of gold there, to cause the constant outflow of that metal, and that condition of things will not be changed until the mines give out.

Those parts of the world which specially produce the precious metals can never have, on that account, any greater excess above their due proportion of them than is just sufficient to produce an adequate current of overflow. That is the limit of the perturbation of the money level in such cases.

The same circumstances which prevent the metals from remaining in the New World, in which they are principally mined, prevent their remaining in the country or countries in the Old World which receive them in the first instance. All the gold and silver of America, exported in the early periods of its discovery, passed to Spain, but neither did or could remain there. Until within a few years Europe has received substantially the whole of the exported gold and silver of America and Australia, and does now receive much the greater part of them, and it is through and by Europe that they have been diffused over the Old World, each portion of it always receiving and retaining its due proportion. It is these facts which have caused the flow of the metals from the Occident to the Orient during the past four centuries.

The flow depends upon the relatively excessive production of the metals in the New World, and will continue without interruption forever, subject only to the possibility that the discovery and working of mines in Asia may bring up its metallic production to the average of the general production of the world.

The due proportion of the precious metals which the different parts of the Old World will receive and retain is that proportion which is determined by the various circumstances of population, commerce, wealth, laws of currency, national habits, and vicissitudes of prosperity, adversity, growth, and decay, which fix the relative amounts of the metals held at any given period in the several subdivisions of the globe.

The flow of the metals from Europe to India may have been quickened at particular times by a specially high price for India cotton, just as the

same flow to China is quickened to-day by the specially high price of raw silk. But the flow in the direction of India would have been as steady, and perhaps as great, if no such substance as cotton had ever existed. Changes are constantly occurring in the things which are the subject-matter of commerce. Industry takes one direction to-day and another to-morrow. If India could not have supplied its imperative want of silver by producing cotton, it would have supplied it by the production of something else. The export of cotton from this country does not date so far back as the adoption of the present Federal Constitution. Cultivation of it in our Southern States was preceded by that of indigo, and may be followed by something else now wholly unanticipated. It has been said of India that it never fails to produce anything which is demanded from it, or, in other words, anything which it can sell. It is now selling wheat, until lately entirely unknown in its list of exports; and is at this moment third on the list of countries furnishing wheat to England, being surpassed only by Russia and the United States.

The precise way in which the extra cotton exports of India during the American civil war and the extra prices then received by India for cotton may have affected the amount of its metallic stock is, that it was a circumstance which may have permanently enriched India as compared with Europe. If it did, by so much does it permanently enhance the percentage of the precious metals which India will retain. That is true of any other circumstance which may advance the relative position of India. It is unquestionable that British domination in India during this century has been favorable to its wealth and commerce. It has been a better government than India ever had before, subject to the objection, whatever the force of it may be, that it is a foreign domination, established and maintained by the sword.

The continuous metallic flow from Europe to Asia is determined by the fact that Europe, as the first receiver of the treasures of the New World, always has an excess of metallic money as compared with Asia. The necessarily lower wages and prices of Asia will always attract money. No "*taste for European goods*" can ever be created there which will be equal to its necessity for money, or put an end to the demands of its vast, rich, and industrious populations for the precious metals for other purposes, which arise from their immemorial usages and habits.

The extent of the metallic flow from Europe to Asia is determined in the long run, and aside from the temporary effect of exceptional circumstances, by the one single fact of the extent to which Europe receives the metals from other quarters. Before California and Australia, it was determined by the greater or less production of the Spanish-American mines, which had been, from the discovery of this continent to 1848, the chief source of the supply of the precious metals. At the beginning of this century, Humboldt estimated their annual production at forty-three million dollars, of which he computed that twenty-five millions were sent to Asia. When that production fell off so greatly after 1809, in consequence of the revolutions in Spanish America, European supplies fell off, and the flow to Asia diminished accordingly. The fact is stated correctly in the book of W. Nassau Lee, printed in 1863, entitled "*Drain of Silver to the East*," but the reason assigned for it by him is entirely erroneous, being precisely that of the present views of the Economist.

Mr. Lee says:

Up to 1814 no great change in the normal state of things was perceptible; but in that year, *consequent upon the great increase of British imports which followed the breaking*

up of the old East India Company's monopoly, the flood of silver began to shallow, and in 1832-'33 it had almost dried up. From this time the tide continued to ebb and flow with uncertain fluctuations until 1849-'50, when it set in with redoubled strength, and has since been increasing in depth and breadth with such rapidity as to cause some alarm for the equilibrium of prices in India.

The returns of trade with England and China have for some years shown an average balance of £10,000,000 in favor of India.

The "*great increase of British imports after* 1814" did not result from the "*breaking up of the old East India Company's monopoly*," but was due to the fact that the metallic prices of commodities fell greatly in Europe after 1809, in consequence of a sudden diminution of the metallic supplies, consisting principally of silver from America. Humboldt estimates the annual average American silver production, at the commencement of this century, at £7,071,831. From 1809 to 1829, this annual average production was reduced, according to Jacob, to £3,109,000, and Europe, which received this production, sent less silver to Asia, for the plain reason that it had less to send. The falling prices in Europe attracted fewer commodities from India, and caused more European goods to be sent to India. It was this which caused the "*great increase of British imports after* 1814" into India, and reduced the metallic flow to India.

When the flood set in again, after 1849-'50, "*the old East India Company's monopoly*" was as much broken up as it was in 1814, and India was equally as open to unrestricted "*British imports*." But after 1849-'50, Europe could spare both gold and silver in abundance; gold, because the mines of Australia and California were producing it; and silver, by substituting gold for it in the channels of its own circulation.

Comparing the five years after with the five years before April 30, 1849, the excess of metallic imports into India over exports, taking its trade with all nations, rose from £8,578,572 to £18,938,601. A more instructive comparison will be to take periods of ten years before and after April 30, 1849. This comparison will show a rise in the excess of Indian metallic imports from £20,699,090 to £70,721,378. It took longer than five years after April 30, 1849, to cause the new gold discoveries to be fairly felt in India. The California production was active in 1849, but Australia, until 1852, had only produced $7,000,000.

McPherson (*Commerce with India*) says:

> The Indian trade arose to a considerable magnitude at the same time that the American mines began to pour their treasures into Europe, which happily has been preserved from being overwhelmed by the inundation of the precious metals, as it must have been if no such exportation had taken place.

Jevons (*Mechanism of Money and Exchanges*, 1875) says:

> Asia is the great reservoir and sink of the precious metals. It has saved us from a commercial revolution, and taken off our hands many millions of bullion, which would be worse than useless here. From the earliest historical ages it has stood in a similar relation to Europe. In the Middle Ages it relieved Europe of the excess of Spanish-American treasure, just as it now relieves us of the excess of Australian treasure.

Nothing short of a complete interdiction of commerce and intercourse will prevent the flow of the metals from the Occident to the Orient. The tendency of money, through its influence upon prices, to come to an equilibrium, is as certain and irresistible as the tendency of water to a level, and, like that, can only be arrested by absolutely cutting off the connections.

It will be seen how untenable the view is, which the Economist insists upon in so many different forms of language, that the great supplies of the metals, principally silver, sent from Europe to the East, during the period immediately following the California and Australian discoveries, had produced, or were rapidly producing, such a saturation of Asia with

the metals, manifested in advancing wages and prices, that the flow of the metals to Asia must cease, and even be changed into a reflux current. That no such saturation has yet been produced is shown by the current fact that the flow to Asia is as vigorous as ever. From the nature of the case, no such saturation ever can occur. The metallic flow could by no possibility proceed further at any time than to produce a monetary equilibrium between Europe and Asia; but this equilibrium would be forthwith disturbed again by the continuing fact that Europe is the receiver of the products of the mines, and that Asia is a great consumer of them. Water may come to a level between two connected reservoirs, but cannot remain at a level if new water flows into one of them while the water in the other is constantly oozing, leaking, and evaporating. The California and Australian discoveries increased the metallic supplies of Asia, but in no greater proportion than they increased the metallic supplies of Europe. They produced no greater effects in raising wages and prices, and in stimulating new wants and new tastes for luxury in Asia, than they did in Europe. If Asia consumes more European goods than formerly, Europe consumes more of the peculiar products of the Orient than formerly. Asia has only received, since 1848, its due proportion of the new supplies, in the form, largely, of silver thrown out of the European currencies by the substitution of gold, or, if any excess has been received, it is accounted for by an anterior deficiency. The water has merely risen to higher points than before in both the reservoirs at the same time, the rise in one corresponding always to the rise in the other. The direction of the flow has not changed, and never will change so long as one of the reservoirs is the sole or principal receiver of new supplies. No reflux current will set from the reservoir which is subjected without intermission to the exhaustion of oozings, leakages, and evaporation, and whose sole resource of recuperation is its connection with the other.

In respect to the two hundred and twenty-seven millions sterling of the metals sent by Europe to Asia during the twenty years ending with 1870, the Economist may have intended to say that it was 70 per cent. of the metallic production of California and Australia received in Europe during the same period, but it was certainly only 29 per cent. of the metallic production of the world during the same period. If to the two hundred and twenty-seven millions sterling received during those twenty years from Europe by Asia there be added what Asia may have received directly from the metal-producing countries, the aggregate would not seem to be out of proportion to Asiatic wealth, commerce, and population.

OPINIONS OF THE BRITISH SILVER COMMISSION.

The question of British trade and financial relations with India, as a part of the more general question of those relations between Asia and the Western World, occupies a leading position in the report of the British Silver Commission of 1876. The question deserved the position given to it, as the general Asiatic and special Indian demand for silver is of the first importance in fixing both its absolute value and its value relatively to gold.

The general view of the situation presented by the commission is, that the annual amount which the government of India has to pay in England by way of interest on debts and such charges of administration as are payable in England, which ranged between four and five millions sterling before the Sepoy rebellion, attained between 1861 and and 1867 the higher range of from nine to eleven millions, and in 1876

had reached fifteen millions sterling, or seventy-five million dollars. The commission note, also, the following circumstance:

Less of the money received by Europeans in India appears to be retained in that country than was formerly the case. It has been stated that, owing to various circumstances, more funds are remitted to England, not only after fortunes have been made, but during the sojourn of the various officials, or European residents, in the country. A remittance from India to England is equivalent to a draft from England on India. It diminishes the aggregate balance which India has to claim when transactions are squared. And in proportion as this practice increases, so is the demand for silver diminished.

The commission state that in the four years ending March 31, 1872, the total merchandise exports of India were, in round numbers, £224,000,000, and the total merchandise imports were £135,500,000, and that in the four years ending March 31, 1876, the total merchandise exports were £223,000,000, and the total merchandise imports were £140,500,000. The merchandise balances of trade in favor of India were not materially different, on a comparison of the two periods, but the modes in which the balances were adjusted were materially different. Thus, during the first period, England paid India £40,000,000 in gold and silver, and £29,500,000 in government bills, representing a part of the annual collection of the interest on the debts of India. During the second period, England paid India £16,500,000 in gold and silver, and £50,500,000 in government bills. The commission treat the annual interest payments of India as so much deduction from its possible imports of specie, and while admitting that "*a desire to obtain and use silver will exist*" always in India, they regard it as a serious question, "*how, looking to the amount it has to pay to this country, it will be able to pay for that silver.*"

The question really raised by the situation, and in its nature of the first practical importance to Englishmen, while to the rest of the world its interest is purely speculative, is the reversed question of the power of India to pay in London amounts of annual interest constantly enlarging, concurrently with the necessity it is under of keeping up its stock of money by importations of silver, and concurrently with the certainty that this stock of money, happen what may to anything else, will be kept up as a matter of fact.

It is not proposed to discuss the question of the continuance of imports into India of silver for other purposes than as money. The British commission believe that the "passion for accumulating ornaments" is so strong in India that its import for that use will "displace some of the other articles imported." Be that as it may, so long as the money of India is silver, the amount of this silver money cannot be affected in any degree by the greater or less amount of Indian indebtedness to Great Britain.

In the case of countries using metallic money, the amount of such money in circulation and the flow of it, whether outward or inward, are necessarily determined by the range of prices of commercial commodities within such countries as compared with the general range of prices in the world. Money is as absolute a necessity to nations in any degree civilized and commercial as air is to the existence of the animal creation. A permanent deficiency of it below that proportion to the amount existing in the world which will maintain the general equilibrium of prices is impossible, and a similar permanent excess is equally impossible. There may be temporary deficiencies or excesses, but they speedily correct themselves. The falling prices which result from a deficiency of money stimulate exports and discourage imports until money flows in and the deficiency of it is supplied. By a reversed operation the rising prices

which result from an excess of money stimulate imports and discourage exports, until money flows out and the excess is thus carried off. No nation can pay debts so as to become permanently deficient in money, or can receive payments as a creditor so as to have a permanent excess of money. In short, neither a permanent deficiency nor a permanent excess can be brought about by payments or receipts in international relations of debtor or creditor, or in any other way.

What makes it the more remarkable that the British commission should have fallen into the fundamental error on this point which runs through their entire discussion of the India problem, is the fact that they have constantly before them in the British situation the most striking illustration of the truth that the amount of money in a country is not increased by any amount it may receive as a creditor.

During the calendar year 1876 the excess of British merchandise imports over merchandise exports was, in round numbers, $800,000,000. A part of this excess represents, doubtless, freights and mercantile profits, but it largely represents the annual revenue of England, as the great creditor of the world. Whatever the exact figure of that magnificent revenue may be, there is not, on account of it, one pound the more in the monetary circulation of that country. Great Britain has nominally a good deal less metallic money than France, in round numbers $600,000,000 as compared with $1,000,000,000, although the populations are about the same. Undoubtedly, Great Britain has effectively as much, as the various expedients of economizing the use of money by checks, &c., are more resorted to than in France.

If England should determine to collect its revenue from investments abroad, for one year, in gold and silver, and if its debtors could, by possibility, pay for one year in that form, the money in the English circulation would, of course, be by so much enlarged. But as soon as the enlargement became sensible the causes of depletion would be set in operation. Prices would rise, England would be the best place for all the world to sell in, while English exports would dwindle until the equilibrium was restored.

It is by the reversed operation of the sameprinciples that the number of rupees in India is determined wholly by the commercial equilibrium of prices, and in no degree by indebtedness to England, large or small. And, by consequence, the Indian importation of silver is so determined, because India has no mines from which to extract the raw material from which rupees are manufactured, but must obtain it by purchases from abroad.

In respect to the fact noted by the British commission, that in the four years ending March 31, 1876, British remittances to India in the precious metals fell off, while remittances in government bills increased, it is sufficient to observe that simultaneous things are by no means necessarily connected things. It is related of a country gentleman who made a purchase of stocks in Wall street which resulted to his advantage that he had happened to notice that, at the time of the purchase, the thermometer stood at 75° Fahrenheit. His conclusion was to watch his thermometer, and when it marked 75°, no higher and no lower, to purchase more of the lucky stock. There is no more connection between the demand of India for silver and remittances to India in government bills than there is between the thermometer and the course of the prices of stocks, and perhaps not so much, as the weather does somewhat affect the temper and enterprises of mankind.

The account-current of India trade for the four years ending in March, 1876, as the British commission present it, consists of three items,

namely, (1) the payment of interest from India to England represented by government bills drawn on India; (2) the balance in favor of India of merchandise exports over merchandise imports; and (3) the cash remitted to India by England. The material questions in the case are, which of these items is the dominating one and controls the others, and which (if either) of them is completely controlled by the other two. The British commission assumes that the dominating item is the annual interest to England, and that this will always be paid, let the other two items fare as they may. They assume, also, that the cash remittance to India is controlled by the condition of the other items, and is always merely what happens to be left after deducting from India's merchandise balance the amount of its annual interest account to England.

The actual order of pre-eminence in power of these three items is precisely the reverse of what the British commission assume it to be. The demand which India, or any other country, makes for money is the most urgent and resistless of all its demands, and overbears everything else. The demand for money, instead of taking what happens to be left after deducting imports from exports, conclusively determines, by its action upon prices, what the balance of exports over imports shall be. The balance of trade depends upon prices, and prices are controlled by the abundance or deficiency of money. In the four years ending in March, 1876, the money wants of India required and were satisfied with a remittance of treasure by England of 16½ millions sterling. In the preceding four years India had received treasure from England in a much larger measure, and its money want was temporarily less urgent. The India money-market, requiring only 16½ millions sterling in the four years ending in March, 1876, permitted a range of prices for merchandise which made the merchandise export balance what the British commission state it to have been. If their report, instead of being made July 5, 1876, had been delayed another year, they would have found the facts in a new phase. India's interest payment to England is now somewhat greater than it was on the average of the four years ending in March, 1876. Its money demand, which had lulled during those four years because the immediately preceding treasure imports had been somewhat excessive, has resumed its normal condition of activity and power, and, in fact, far exceeds the average of twenty years past. And whatever it may be, it will compel the merchandise balance and, if necessary, the debt payment to England to conform to its own superior power. This debt payment, instead of being the pre-eminent one in the list of the necessities of India, as the British commission assume it to be, is, in fact, subordinate to both the other necessities of India, for money and for merchandise.

It is as true in financial dynamics as it is in physical dynamics, that the greater force always overcomes the less. The possession by nations of their due proportion of money is an absolute necessity and an absolute certainty. The payment by nations of their debts, however desirable it may be, is neither necessary nor certain. Mankind have not had a very long experience in the matter of national debts, as they have not been much known until within a century. But it is certain that some of the most flourishing nations of Europe, as France, Austria, and Russia, have at various times repudiated, or scaled down, larger or smaller portions of their debts. Still others, as Spain and Greece, are in a chronic condition of bankruptcy. England, from 1797 to 1821, paid nothing but suspended and depreciated bank-notes. And it is now inevitable that all the nations in Europe, including England, which have very large debts, will become bankrupt, in the event of a general and protracted

war. The law of morals is the same for Asia as for Europe, and the philosophy of facts is the same. If India cannot pay its debts, and also maintain its stock of money, it has no power of choice as to which of the two things it will do. Its stock of money will be maintained, and its debts will be postponed to a more convenient season, or will be reduced to more practicable figures, or will remain permanently unpaid.

It is undoubtedly true that a nation may be deprived of money of one kind by the substitution of money of another kind. No fact is more familiar than that in the experience of mankind. The English are the political masters of India. If they are restive under a drain of silver to India, and prefer a drain of gold, they may try the experiment of an exclusive gold currency there, but they will certainly not try it until they have determined to again suspend specie payments themselves and resort to paper money. Under the demands for gold from other nations, that metal does not exist, and is not at all likely to be produced in quantities sufficient to sustain a gold currency in Great Britain and India at the same time. Or, adopting a different policy, and one which is not obstructed by any physical impossibility, they may decree a paper money for India, and undertake to force its circulation there by law. To whatever extent they might succeed in that, they would arrest the further export of silver to India for monetary purposes, and might even possess themselves of more or less of the silver now in the Indian circulation. Theoretically, there are no limitations upon the omnipotence of Parliament, anywhere within the British dominion. The managers of the London Times evidently supposed that there were no practical limitations, when they proposed last summer that the Indian occupiers of lands, who possess nothing but silver rupees, should be commanded to pay their rents in gold sovereigns. The wise and cautious statesmen of England know that the practical limitations are numerous, and are very careful not to overstep them. The integrity of their great empire, encircling the globe, and embracing so many diversities of religion, habits, and race, is preserved not more by arms than by policy. They will do nothing rashly in dealing with peoples so wedded to old traditions and ways as their India subjects. That they entertain no present idea of demonetizing silver in the East is illustrated by the British royal proclamation of 1876, establishing in Mauritius a silver currency, with the Indian rupee as the unit, the same as in British Ceylon, Mauritius having had, since 1852, an exclusive standard of gold. The money of India will remain metallic and remain silver, subject to possible gradual and partial displacements by convertible and voluntarily accepted paper, until a remote future develops conditions not now possible to be foreseen. The stock of silver money needed for India will increase with its increasing exchanges, and with the progress, known to be constant, of the substitution of coin for barter in its transactions. The flow of silver thitherward, required to maintain its stock of money, will continue so long as the seas are open and commerce is unobstructed, and it will never be diminished by the payment of debts.

THE FINANCIAL THEORIES OF THE INDIA GOVERNMENT.

The governor in council of India adopted September 22, 1876, a series of resolutions upon the financial situation, of which the following was the sixth:

When India is in a normal condition, *i. e.*, when there is no abnormal demand for any of her staples, and she is not borrowing large sums from abroad, the amount of treasure to settle her accounts with the world is not considerable, and of the treasure

received a substantial proportion has always been gold. The large imports into India since 1850 are due to abnormal circumstances, as follows:

1. The Crimean war transferred to India large demands for produce theretofore obtained from Russia.
2. The American civil war exaggerated temporarily the value of Indian cotton.
3. Great sums of money have been borrowed for—

a. The suppression of the mutiny.
b. The construction of railroads (guaranteed and state) and canals.
c. The Bengal famine.

This resolution entirely ignores the general and real cause which makes India a constant importer of the precious metals, which is that it has substantially no mines, and especially it ignores the plain and almost exclusive cause of the "*large imports into India since* 1850" of the precious metals, which is their extraordinary production since 1850 in California, Australia, and, more lately, Nevada. Treating these "*large imports*" as something altogether "*abnormal*," it attempts to explain them by "*abnormal circumstances*," and assigns the chief place among these "*circumstances*" to the foreign loans of India, whereas it is entirely clear and established by ample experience that no nation ever did, or ever can, increase the amount of its metallic money by foreign loans.

In the twenty-seven years from 1849 to 1875, both inclusive, the balance of the metallic imports of India over exports, taking its trade with England and all the rest of the world together, was $1,322,941,155, one-third gold and two-thirds silver.

During the same period, the total gold and silver production of the world was $4,403,969,754.

The population of India, including the native protected states, (so called,) is, by a recent census, 237,000,000, or from one-fourth to one-fifth of the population of the globe.

It is thus certainly true that if the case is tested by the rule of population alone, India has received something more than its proportion of the increased metallic supplies since the California discoveries. But as compared with the average of the world, the wealth, industry, and development of India entitle it to a larger proportion of the precious metals than the rule of numbers does, and its people are also uniformly represented as specially addicted to the use of gold and silver ornaments and in hoarding.

Mackenzie, one of the witnesses examined by the British commission of 1876, said:

> In every large village there is a silversmith, and as soon as a man gets a few rupees he employs the silversmith to come to his house and make the ornaments. Although the peasantry in India have poor houses, yet the amount of ornaments they have would exceed in value the furniture and utensils of the same class of peasantry in England.

That the treasure received by India from 1849 to 1875 did not overstock it is proved by the fact that, although silver has risen very greatly in value and purchasing power within four years, or, in other words, is more costly to obtain than it was four years ago, the demand of India for it, and the purchases of it made by India during the year 1876, and so far in 1877, are beyond the average of the preceding twenty-seven years.

Whether India will absorb as much treasure in twenty-seven years, beginning with 1876, as in the twenty-seven years ending in 1875, will be influenced in no degree by any of the considerations referred to either by the London Economist or the India government.

It will be determined primarily by the amount of the aggregate metallic production of the world during the current twenty-seven years. In 1832, the flow of the metals to India "*almost dried up.*" That was

because the Spanish-American mines had then "*almost dried up*," and because Europe held on to what little was received from them. The flow to India commenced again after 1850 in a deeper and broader current than ever before. That was because the metallic production of the world had then become greater than ever before.

Two circumstances have increased the proportion received by India of the total metallic production during the past twenty-seven years:

First. The abandonment by the United States and by the greater part of Europe since 1850 of the use of metallic money and the substitution of a forced circulation of paper. This, of course, has enabled India and all other metal-using countries to obtain more of the current metallic supplies than would otherwise have fallen to their share.

Second. The great progress made in India during recent years in substituting cash for barter in its internal transactions.

The India government in this enumeration of "*abnormal*" causes of India's metallic imports since 1850 overlook both these circumstances. The British commission of 1876 dwell largely upon the one last named and present the facts relating to it with great fullness.

Mr. Lee, writing in 1863, (*Drain of Silver to the East*,) said that the use of coins was even then almost unknown in India outside of the cities, and he estimated that two thousand million dollars of additional coined money would be needed to properly supply it. The real population of India is now known to be two hundred and thirty-seven millions, while Mr. Lee's estimate of the coin needed for its wants was based on an estimated population of only one hundred and eighty millions. If the coins are being constantly worked up into ornaments, in the manner described by Mr. Mackenzie, the required new coinage must be greater than Mr. Lee's estimate, in some proportion not easy to compute.

The testimony taken by the British commission of 1876 is all to the effect that large parts of India are still to be supplied with coins. That commission say:

> The facts warrant the conclusion that the use of silver coin has greatly extended in India, *and will continue to extend*, not so much by the use of more silver in the territories already occupied by the existing currency as by the gradual increase of its use in the remoter parts of India.

Upon the whole, the evidence seems to be that the introduction of coins into new Indian areas of circulation will continue as active during the current twenty-seven years as during the past twenty-seven. If this proves to be so, no circumstance now suggests itself calculated to diminish hereafter the proportion which India has been taking, since 1849, of the total metallic production of the world, except that suspensions of specie payments elsewhere may not occur upon so extensive a scale as heretofore. And even if India shall hereafter take a somewhat less proportion of the combined production of the two metals, it might still maintain and even increase its absorption of silver. Instead of importing treasure in the ratio of two parts of silver to one of gold, the India demand for its money, which is silver, has only to become more urgent to change the ratio of silver to three parts out of four or four parts out of five.

There has really been nothing "*abnormal*" in the metallic imports of India, since 1850, which required the India government to cast about for an explanation in some "*abnormal circumstance*." Undoubtedly they have been extraordinarily large, but so have been the total metallic supplies of the world during the same period. Comparing India with Great Britain, the excess of metallic imports by the latter since the Cal-

ifornia discoveries would seem on the face of it to be decidedly the most extraordinary and "*abnormal.*"

The imports of coin and bullion into Great Britain and Ireland were not registered at the custom-house before November, 1857. The official statements can, therefore, only be given for the eighteen years from 1858 to 1875, both inclusive, of the imports and exports of the precious metals. The figures are as follows:

	Imports.	Exports.
Gold	£331,217,152	£252,153,402
Silver	185,858,595	172,555,470
Total	517,075,747	424,708,872

Assuming the same ratio of excess of metallic exports over imports for the nine years ending with 1857, the excess for the twenty-seven years ending with 1875 would be £138,550,312, or, taking the pound at $4.85, would be $768,969,014. During the same period, the excess of metallic imports into India over exports was $1,322,941,155. Considering that the population of India is seven or eight times greater than that of Great Britain and Ireland, that India has, since 1848, created the greater part of its metallic currency by purchasing and coining silver, while England had only to keep good a metallic currency already existing in 1848, and that national habits in India favor so large a use of the metals, especially of silver, for other uses than as money, it is much more easy to account for the absorption of $1,322,941,155 by India than the absorption of $768,969,014 by Great Britain. The greater wealth of Great Britain does not explain an absorption of the precious metals more than four times as great *per capita* as that of India, which these figures show. The use of the metals, either as money or for ornament and display, does not necessarily increase with wealth and civilization. France has always had more metallic money *per capita* than England, and the evidence seems to be that in all those parts of India in which the use of money has fully superseded barter, more metallic money *per capita* is used than in England.

It would be a very grave fact, as affecting the future value of the metals, and especially of silver, if the movement of treasure to India since 1850 was really abnormal and ought to be principally ascribed to the negotiation of loans in England. On that view, which is the one taken by the India government, the movement of treasure to India must now substantially cease, as these loans are already quite as large as England deems to be safe, and will be increased only under some such overpowering necessity as famine or war. This view is not the correct one. It is based upon an entire misconception of the history of India and of Indian financial and trading relations with the rest of the world, and it involves a theory in respect to the effect of foreign loans which is contrary to sound reasoning and to experience.

Foreign loans are never ultimately realized in money. They are very rarely even temporarily and partially so realized, and, when they are, the money so received immediately flows out. It must do so, because it must raise the prices of the country receiving it, and thereby stimulate merchandise imports and diminish merchandise exports. The amount of metallic money a country may receive may be temporarily affected by accidental circumstances, such as a foreign loan, but the amount it can permanently retain is fixed by the inflexible rule that it must be such an amount as is consistent with the range of prices which the necessary commercial and monetary equilibrium of the world imposes upon every country having commercial connections with other countries.

If this range of prices, which is permanently the only possible one, is temporarily exceeded, money flows out until prices fall to the proper level, and, if prices go temporarily below this range, money flows in until they are restored to the proper level. Disregarding all theoretical refinements as to the exact office or offices of money, it is sufficient to know that there is a necessary relation between the volume of money and prices, and that therefore the tendency of prices, always at work, to come to an equilibrium between commercial countries, and which may be conveniently described as the law of prices, must at last control the flow and distribution of money.

Disturbing circumstances are of various kinds. Among them have been the facts that the bulk of the money-metals was procured in limited localities, or was received by a single country. That these circumstances only temporarily retarded the equable diffusion of the metals, was shown in the cases which conspicuously arrested the attention of mankind, of the Spanish-American countries which for more than three centuries furnished nearly the entire metallic supply of the world, and of Spain, which for a considerable period largely monopolized the metallic exports from its colonies. It was soon seen that the Spanish-American countries, which produced the metals, and Spain, which principally received them, only had permanently just enough more metallic money than they would otherwise have possessed, to set in motion and keep in motion the current of outflow. Instructed by those examples, mankind at once anticipated what they have actually witnessed in the recent cases of Australia and California. Both those regions, no matter how rich in metallic production, are bound rigorously and inexorably to a certain range of metallic prices, any permanent excess beyond which would cause them to be entirely stripped of money, and, as their prices must have a certain range, they can have no other volume of metallic money than such as is consistent with that range.

Another circumstance which may possibly disturb for a time the monetary equilibrium is that of international loans. But this equilibrium speedily recovers from a disturbance, no matter what the cause of the disturbance may be, and illustrations are innumerable of the fact that countries in the long run acquire no money by borrowing abroad. This country has been conspicuous for such borrowing since the civil war, and while these borrowings have been in progress metallic money, instead of flowing into it, has flowed out of it. The case of the Australian colonies is similar to that of this country, in the fact of the possession of abundant mines, and their borrowing experience has had the same results. They are now in the full career of negotiating loans in England, under the encouragement of English bankers and manufacturers, who profit thereby; but these loans, as in our case, instead of carrying money from England to Australia, do not even diminish in the least degree the contrary flow of it from Australia to England. Russia, also a mining country, has pushed borrowing abroad since the Crimean war to a point seriously menacing its credit, but with all its foreign loans, added to the treasures of the Ural and of the Siberian gold washings, the only money found there is the paper rouble. Nowhere among all the countries making foreign loans is there perceived any inward flow of metallic money, except in the solitary case of India, which of itself suggests what is otherwise established to be true, that the inward flow in that case is due to other causes.

If we pass from the borrowing to the lending side in international transactions we see the same thing in a reversed view. Lending nations never part with any money. England, which has been making loans for

fifty years, never had any approximation to the amount of money it has loaned, and possesses as much now as it ever did. Its loans have been, in substance, mere credits to draw upon in payment for merchandise; and their net result has been the conversion of English iron, coals, cotton cloths, and similar things, at round prices and round profits, into foreign securities. As the borrowing nations obtained no money, and only swelled their merchandise imports, England parted with no money and only swelled its exports. The description given by a late Secretary of the Treasury (Governor Boutwell) of his experience in loan negotiations in England has been often quoted, and is very familiar. He was politely informed by the Bank of England that the English would be very happy to take his loans to any desired extent, but it must be on the condition that he would agree not to take any money away from London.

The recent extraordinary case of a war-fine of one thousand million dollars imposed by Germany upon France, and all actually paid by France within a space measured by months, illustrates in its consequences the sure and speedy operation of the economic laws which restore the monetary equilibrium, however extreme and violent the disturbance of it may be. The fine was paid, either in actual specie or in bills of exchange on London and other specie-paying points. France borrowed nothing abroad wherewith to make the payment, and at the end of this vast operation is found to be possessed of as much gold and silver as when the operation began, while Germany has permanently gained no gold and silver by it. The money flowed out of Germany as fast as it flowed in, from the inflation of prices which it produced. France, on the other hand, has recovered, by increased exports of merchandise, all the money paid out for the fine, and has actually prospered from the enlargement and stimulation of the industries which have furnished the means for these increased exports, which would be the experience of this country if it would set resolutely about paying off its foreign debts. But, irrespective of all other aspects of the case, it seems to be clear that, if the monetary equilibrium between Germany and France was only transiently disturbed by the memorable transaction of the war-fine, it cannot have been affected between England and India by the loans made at intervals during a series of years, which are referred to in the sixth resolution (September, 1876,) of the India government.

It will not escape the most casual observation that the increased cotton export of India and the loans made by England to India did not occur until the metallic import, of which they are proposed as the explanations, was already under full headway.

The world was so stocked with cotton by the unprecedented American crop of 1860 that it was not until 1862 that Indian cotton-exporters began to profit by the American civil war. The India debt to England, direct and by way of guarantees of railroad and canal investments, has grown up principally since 1862, the annual charges upon it having swollen from four millions sterling in that year to fifteen millions sterling in 1876. In fact, in the eight years after April 30, 1849, India incurred no direct debt in England, and in the same eight years the total of its debt, incurred in the shape of railroad and canal guarantees, was only £7,406,240. Manifestly, the sudden rise of Indian metallic imports to £70,721,378 in the decade after April 30, 1849, compared with £20,699,090 during the preceding decade, cannot be explained by the circumstances recited by the India government. It has been said that coming events cast their shadows before, but it has never been said that coming events can be preceded by their consequences.

To whatever extent, great or small, India may profit by better markets while Russia is engaged in war, it certainly cannot be described as an extraordinary fact that Russia was so engaged two years out of the twenty-seven ending with 1875. It will not be extraordinary if it should be engaged in war during a much larger part of the current twenty-seven years. It seems now to be preparing for a war, the duration and scope of which nobody can foresee. It was said by an old English philosopher that war was the normal condition of man in a state of nature. We are farther removed from that state than we were in Hobbes's time, and it is to be hoped that the world has since improved. But it has certainly not improved so much that a condition of war two years out of twenty-seven can be described as extraordinary and "*abnormal*," in the case of Russia, or of any country.

The increased quantity and price of India cotton exports during the American civil war, and during the subsequent period of revolution in the labor system of the Southern States, may doubtless be fairly said to have been extraordinary and "*abnormal*," both in the cause and extent of the fact. But a critical examination of India trade during so long a period as twenty-seven years would probably show that the profits to India resulting from the large cotton sales commencing in 1862, have been to some extent offset by periods of depression in the prices of the various exports of India, including cotton, and by periods when India has been obliged to pay extraordinary prices for some of its imports, as notably for English coals and iron in and about 1872–'73. Commercial fluctuations of all kinds are of constant occurrence. Ordinarily, they balance and compensate each other. It is sufficient that we can be sure that it is not in accidental and temporary circumstances that the true explanation of an immemorial and constant fact, like that of the import of the precious metals by India, is to be found.

The conditions which determine the flow of the metals to the East and to India may or may not be as permanent as the configuration of the American continent which determines the flow of the Gulf Stream. Their permanency cannot, at any rate, be so certainly known. The facts of geography are patent to the eye, while the possibilities of mining are hidden in the bowels of the earth. There can be no absolute assurance that new discoveries may not reverse the history of four centuries, and cause the current of the metals to set from the Old World to the New. But for that immediate and limited future, beyond which men need not look in the practical concerns of life, confidence may reasonably remain unshaken that the metals will still flow as they have flowed without interruption since the voyages of Columbus, and that their distribution among the different parts of the Old World will be governed as heretofore, and by the same circumstances of numbers, wealth, industry, tastes, habits, and the possession or lack of mines.

THE CONSTITUTIONAL POWERS OF CONGRESS AND THE STATES IN RESPECT TO METALLIC MONEY.

The provisions of the Constitution of the United States in respect to money are—

First. The grant to Congress of the two powers, to coin money and regulate its value, and to regulate the value of foreign coins. The coinage power is made exclusive in Congress by a prohibition of it to the States. The regulation of the value of foreign coins is not prohibited to the States, and it is therefore a power which they may exercise if Congress does not exercise it.

Second. The provision that "*no State shall make anything but gold and coins a tender in payment of debts.*"

There being no special grants of power to Congress to establish legal tenders, or to do anything in respect to "*money*" except to "*coin*" it, and the provision above quoted in respect to the States being a recognition that the power to establish legal tenders was one of their reserved powers, it was long held that this was a "*hard-money Government,*" and that gold and silver were fixed as the "*constitutional money.*" The argument on this point was the short one that the States alone had jurisdiction over legal tenders, and that they were expressly restrained from making "*anything but gold and silver coin a tender in payment of debts.*"

Thus, Albert Gallatin, (in 1831,) after quoting the restriction upon the States, says:

> As Congress has no authority to make anything whatever a tender in payment of private debts, it necessarily follows that nothing but gold and silver coin can be made a legal tender for that purpose.

Mr. Webster (speech in United States Senate, December 21, 1836, presented the same view more at large, as follows:

> Most unquestionably there is no legal tender, and there can be no legal tender in this country but gold and silver, either the coinage of our own mints or foreign coins, at rates regulated by Congress. This is a constitutional principle, perfectly plain, and of the very highest importance. The States are expressly prohibited from making anything but gold and silver a tender in payment of debts; and although no such prohibition is applied to Congress in express terms, *yet Congress has no power granted to it in this respect, but to coin money and regulate the value of foreign coins.*
>
> The legal tender, therefore, the constitutional standard of value, is established and cannot be overthrown. I am certainly of opinion that gold and silver, at rates fixed by Congress, constitute the legal standard of values in this country, and that neither Congress nor any State has authority to establish any other standard *or to displace this.*

The same general views were taken by the United States Supreme Court in Ogden *vs.* Saunders, (12 Wheaton, 265,) and in the opinions of Justices Clifford and Field in the Legal-Tender Cases, (12 Wallace.)

The final decision of the majority of the United States Supreme Court in the Legal-Tender Cases (12 Wallace) is so recent and so familiarly known that any enlarged statement of its character and results is unnecessary. For the present, it will be sufficient to observe that this decision does not affirm the possession by Congress of any general and substantive authority to create tenders. What it settles is, that special circumstances may arise, under which it may be "*necessary and proper,*" within the meaning of those words as used in the Constitution, that Congress, in the execution of its admitted powers, should give the legal-tender function to paper, no express prohibition in that respect having been imposed upon Congress. There is nothing in the decision which affirms a right in Congress to take away the legal-tender function from gold and silver coins, which have been money in this country from its first

settlement, and which the States are, by the Constitution of the United States, expressly authorized to make "*a tender in payment of debts.*" The law of Congress of 1862, which was under judicial review in the Legal-Tender Cases, did not assume to take away the legal-tender function from either gold or silver. What that law did was to create an additional tender by giving the function of tender to certain Treasury-notes. This law was passed by Congress and sustained by the Supreme Court, not upon the ground that Congress had any general authority to create paper money, but that, in the special circumstance existing, it might give the legal-tender function to a particular description of paper, as a "*necessary and proper*" means of executing certain powers, its possession of which was conceded.

It is believed that a proper consideration of the subject will show that a power thus obtained by implication to make paper a tender under certain circumstances, can never be extended to the altogether different act of taking away the legal-tender function of gold and silver coins.

GOLD AND SILVER ARE MONEY IN THE UNITED STATES BY THE COMMON LAW.

In the Institutes, pages 574 to 579, Coke discusses at large the common law of England on this subject, saying:

> No subject can be enforced to take, in buying or selling or other payment, any money made but only of lawful metal; that is, of silver or gold.
>
> The money of England is the treasure of England, and nothing is said to be treasure-trove but gold or silver.
>
> And this is the reason that the law doth give to the King mines of gold or silver, thereof to make money, and not any other metal which a subject may have, because thereof money cannot be made.

It was by virtue of the English common law, brought here by the English subjects who founded these States, that gold and silver were money and lawful tender, down to the time of the adoption of the present Federal Constitution.

A royal proclamation in 1704, and a confirmatory act of Parliament in 1707, fixed the rates at which certain specified silver coins should be current in the American colonies, it being recited in both the proclamation and act that diversities in rating such coins, injurious to trade, had arisen. But this proclamation and act, and all the statutes of the colonies fixing the rates at which specified gold and silver coins should pass current, proceed upon the assumed fact and law that gold and silver were money and a lawful tender.

The common law of England, under which gold and silver were money, remained unaltered by any act of the British Parliament at the time our political connection with that country was severed in 1776, and for forty years afterward. Some respectable writers have fallen into the error that the act of Parliament of 1774 limited the legal-tender capacity of silver to sums not exceeding £25. Even Sir Robert Peel made that mistake in his speech on the Bank Act in 1844. What that act really prescribed, after reciting that the silver coins in use were much reduced below weight by wear, was, that in sums exceeding £25 they should be a tender, not by tale, but by weight at the mint-price of silver. Similar provisions exist now, both in England and the United States, in respect to gold coins of light weight. Silver was, therefore, a legal tender in England and in its colonies, for all sums, and upon an equal footing with gold in all respects, down to the time when the separation and independence of these American colonies were declared and maintained.

In most, if not in all of the States, it has been by virtue of the English common law, and not by virtue of new statutes, that gold and silver

coins have been money and legal tenders since the adoption of the Federal Constitution.

In the South Carolina case of McClarin *vs.* Nesbitt, (Nott & McCord, vol, 2, page 519,) the supreme court of that State (1820) say:

> The only legal tenders in this State are gold and silver, and they are so by virtue of the common law.
>
> At common law (2 Institutes, 577) only gold and silver were a legal tender. It was under that common law that after the act (of South Carolina) of February 6, 1752, forbidding paper, gold and silver became such.

The Federal Constitution does not command the States to make gold and silver coins a legal tender. Such a command was quite unnecessary. Gold and silver coins were already a legal tender, and always have been so in this country by the common law. But the Constitution, by prohibiting the States from making anything else a legal tender, recognizes the authority of the States to enact and maintain the legal-tender capacity of such coins.

The power of prescribing other and additional legal tenders at discretion had been largely used in giving forced currency to paper by the States, under the old confederation, as it had been used by them when they were in the colonial condition, prior to July 4, 1776. It was so exercised by them during the revolutionary war, at the special instance and request of the Congress of the Confederation, in aid of the currency known as the continental bills. Their complete possession of the power to create other tenders than gold and silver coins, until the present Constitution limited it to gold and silver coins, has not been questioned. But neither as colonies nor under the confederation had they ever assumed to take away the legal-tender functions from gold or silver.

THE STATES NOT ALLOWED TO SELECT EITHER GOLD OR SILVER AS A SOLE TENDER.

It seems clear that the States would be within the restriction of the United States Constitution, in prescribing that gold and silver coins fabricated by the United States, or foreign gold and silver coins at values regulated by Congress, should be legal tenders. But it may be suggested that they would also be within the restriction of the United States Constitution, in prescribing that legal tenders should be only such coins when struck from gold, or only such coins when struck from silver. This would be giving to the word "and" in the restriction a disjunctive instead of a conjunctive meaning, and as if it had been written—

> No State shall make anything but gold OR silver coin a tender in payment of debts.

Undoubtedly, a disjunctive meaning may be given to the word "and," when the necessities of the context and of the surrounding facts require a disjunctive meaning. But there can be no color for it here, when the ordinary meaning, which is conjunctive, is exactly adapted to gold and silver, which constituted money, not separately but conjunctively, in the immemorial practice of mankind, and in law and in fact in this country at the date of the adoption of the Constitution. It cannot be reasonably supposed that either those who framed that instrument, or the people who ratified it, had any other idea of metallic money than that of the combined mass of gold and silver then universally recognized as such.

Of the many objections to the construction that the States may confine the legal-tender function to either metal, or give it to the two combined, at their pleasure and discretion, it will be sufficient to note the three following:

1. It involves the wholly inadmissible proposition that either or all of the States may reject as a tender one of two metals, both of which Congress is unquestionably authorized to coin as money.

2. On this construction there would be no security that the standard of value in the United States would be uniform. Some States might adopt gold, others silver, and still others the two metals in conjunction.

3. On this construction there would be no stable standard of value in any of the States, as what they did to-day they could undo to-morrow, and as a standard of gold is fundamentally different from a standard of silver, and a standard of either of the metals separately is fundamentally different from a standard of the two combined.

If the Constitution is really susceptible of a construction involving such results, it has certainly failed lamentably to secure that "sound and uniform currency," which Mr. Webster says was "one of the greatest ends contemplated in the adoption of it."

On the 22d of March, 1875, the State of New York led the way in legislating in respect to the entirely novel departure of demonetizing silver, which was initiated in the coinage act of February 12, 1873, and consummated by certain words actually found in the United States Revised Statutes of June, 1874, although having no rightful place there. The full text of the New York law referred to, including the title, is as follows:

AN ACT to establish specie payments on all contracts or obligations payable in this State in dollars and made after January first, eighteen hundred and seventy-nine.

SECTION 1. All taxes levied and confirmed in this State on and after January first, eighteen hundred and seventy-nine, shall be collected in gold, United States gold-certificates, or national-bank notes which are redeemable in gold on demand.

SEC. 2. Every contract or obligation, made or implied, and payable within this State, and made or implied after January first, eighteen hundred and seventy-nine, and payable in dollars, but not in a specified kind of dollars, shall be payable in United States coin of the standard of weight and fineness established by the laws of the United States at the time the contract or obligation shall have been made or implied.

This New York law was enacted two months after the passage of an act of Congress providing for a coin resumption in gold January 1, 1879, and it is apparent that the framers of the New York law were disposed to go to every possible length in sanctioning and sustaining the policy of Congress.

In respect to the medium in which New York may require its taxes to be paid, there is no limit upon the sovereign discretion and power of that State, and this law is both minutely and comprehensively rigorous in demanding of the tax-payer either "gold, United States gold-certificates, or national-bank notes which are redeemable in gold on demand."

When it comes to deal, however, in the second section, with private debts, express or implied, the word "gold" disappears and the word "coin" takes its place. In the title of the bill the word "gold" is softened to the word "specie." With the *animus* of the framers of the law, as disclosed in the first section, it is quite certain that "gold" disappeared from the second section, and from the title, under some coercion which was irresistible. This coercion, plainly enough, was the command of the Constitution of the United States, that "no State shall make anything but gold AND silver coin a tender in payment of debts."

This New York law is thus a recognition, and none the less entitled to weight because forced and unwilling, that the States must give the power of tender to both the gold and silver coins struck under authority of Congress. This duty rests upon all the States, and will probably be discharged by most of them without reluctance.

DEMONETIZATION.

In the legal-tender cases, Clifford, J., says:

Very strong doubts are entertained whether an act of Congress is absolutely necessary to constitute the gold and silver coins of the United States, fabricated and stamped as such by the proper executive officers of the Mint, a legal tender in payment of debts. Constituted, as such coins are by the Constitution, the standard of value, the better opinion would seem to be that they become legal tender for that purpose, if minted of the required weight and fineness.

In the same cases, Field, J., says:

Money being a standard, its coins or pieces are necessarily a legal tender. The provisions in the different coinage-acts that the coins to be struck shall be such legal tender are merely declaratory of their effect when offered in payment, and are not essential to give them that character.

These are the views of eminent jurists, and no authorities can be cited for any different views on this subject. They fully cover the ground that coins "minted of the required weight and fineness" are "necessarily a legal tender," and that they are so not from any law of Congress but from the provisions of the Constitution. It seems almost superfluous to add that Congress cannot take from them a function conferred by the higher authority of the Constitution.

In the same legal-tender cases, Potter, *arguendo*, finds still another basis for the legal-tender power of coins:

Money is, *ex necessitate*, a tender in payment of debts due in money, even if not so declared by law, just as coals of a specified kind are a lawful tender in discharge of a contract for coal, and cotton of a contract calling for cotton.

If Congress can demonetize silver, it can demonetize gold, and it can also demonetize both the metals at one and the same time.

A POWER IN CONGRESS, ARISING BY IMPLICATION, TO CREATE PAPER-MONEY, CANNOT INCLUDE A POWER TO DEMONETIZE GOLD OR SILVER.

This question of a congressional demonetization of either of the precious metals is wholly different from, and in no way involved in, questions which have been raised or may be raised as to the power of Congress to create additional tenders by giving a legal-tender capacity to paper, as a supposed necessary means to execute other expressed powers.

In the Legal-Tender Cases, (12 Wallace,) the general grounds taken in the opinions of a majority of the court were, that Congress must necessarily determine in the first instance, subject to judicial review, what laws are necessary to execute its admitted powers; that Congress had determined that giving the function of legal tender to certain paper was indispensable to the execution of its powers to borrow money, raise and equip armies, and suppress insurrection; that giving such a function to Treasury-notes was certainly one of the measures appropriate to those objects; and that the court did not feel justified in overriding the decision of Congress that it was a measure necessary for those objects.

The law which was under this judicial consideration neither demonetized any existing money, nor did it involve the assertion by Congress of any general power over the subject of legal-tenders. It involved only the question whether giving the function of tender to a specified description of paper was a fairly implied power under the circumstances.

Other questions have been raised in this country, but have not reached a stage requiring judicial determination, such as that of the power of Congress to create paper-money, as a means of regulating commerce, collecting taxes, &c. It is not proposed to discuss these questions, but merely to state the nature of them. For the matter in hand, it need only be observed:

1. That no general authority over legal-tenders is given to Congress by express grant.

2. That no such general authority and no generaal authority of any description can ever be obtained by implication. The case of an implied power is always a special case, to be decided on the exact language of the law in which such power is asserted and exercised, and on the particular circumstances. In the judgment of Congress, and of the Supreme Court, the necessity had arisen from the exigencies of the civil war to give the legal-tender function to a particular description of paper, in order to execute certain powers of Congress. This may happen again, in the opinion of the same authorities, from extraordinary exigencies, rendering it impracticable to collect taxes, to pay public debts, or execute other powers of Congress, in any other way. But in the case which has happened, what was held to be implied was not a general authority over tenders, but only the authority to make paper a tender in the precise circumstances then existing. And in any future case an implied power to make paper a tender can never go beyond the special necessities of such case, and can never be expanded to the proportions of a general control over tenders.

3. No case has been more familiar in the legal and political discussions of the last half-century than that of *Bank* vs. *McCulloch*, (4 Wheaton, 316,) in which the opinion of the Supreme Court of the United States was drawn by Chief-Justice Marshall. The case arose out of the claim of the State of Maryland to tax the business and operations within its territorial limits of the second Bank of the United States. Judge Marshall sustained the implied power of Congress to charter such a bank, and disallowed the attempted taxation, on the ground that, if Maryland could tax at all, it could tax to the extent of practical prohibition, and thereby nullify a power of Congress, decided by the Court to exist by a fair implication. In respect to the powers of the National and State governments Judge Marshall said:

> There is a plain repugnance in conferring on one government a power to control the constitutional measures of another.

This rule is a two-edged sword, and Judge Marshall used both edges. He would not concede to Maryland the right to destroy by taxation a business and operations which he held that Congress had an implied power to authorize; and, on the other hand, he would not concede to Congress the right to shield from Maryland taxation any property drawn into the business and operations of a fiscal agency created under a merely implied power, which had been and would otherwise have remained subject to such taxation. His conclusion is:

> This opinion does not deprive the States of any resources which they originally possessed. It does not extend to a tax paid by the real property of the bank, nor to a tax on the interest which the citizens of Maryland may have in the institution.

The principles laid down in *Bank* vs. *McCulloch* are recognized in the legislation which governs the taxation of the present national banks. The power to create such banks is only an implied one, and it is so exercised as not to impair the right of the States to impose taxes. The express powers of Congress would not be subject to such a limitation.

4. The range of implication, as a source of congressional power, is undoubtedly wide. The language of courts defining its limits, although presumably always as precise as the subject admits of, is often somewhat elastic in the possibilities of its meaning. But there is one clear and inflexible rule governing this kind of implication, which is laid down in all the cases and by all the courts and authorities. That rule is, that no power shall ever be obtained by implication which contra-

venes any expressed language of the Constitution. Under this rule Congress would not be permitted to make paper a legal tender, but would be compelled to find some other means of executing its expressed powers, if the Constitution imposed upon Congress the prohibition imposed upon the States against making anything but gold and silver coins a tender. And under this same rule no power can ever be implied in Congress in contravention of the authority to make gold and silver coins a tender, which the Constitution does by express words recognize as belonging to the States, and which is the same thing as if the Constitution did by express words grant that authority to the States.

The means which Congress may use, on the ground of being necessary and proper to the execution of an expressed power, are described by Kent (Commentaries, 1250) as—

> All the means fairly applicable to the attainment of the power, *and not specially precluded by specified exceptions.*

By Story (Commentaries on the Constitution, 1245) as—

> All the means requisite and fairly applicable to the attainment of the end of the power, *unless they are excepted in the Constitution.*

By Marshall (Bank *vs.* McCulloch, 4 Wheaton, 316) as—

> All the means which are appropriate, which are plainly adapted to the end, *which are not prohibited,* but *consist with the letter and spirit of the Constitution.*

It can make no difference whether a proposed act of Congress contravenes an express prohibition imposed upon it, or whether the effect of the act is to defeat an express grant to the States. In either case the rule is equally applicable that no power can be obtained by Congress by implication inconsistent with the expressed provisions of the Constitution. It therefore results that the implied power of Congress to give the legal-tender function to paper under certain circumstances can never be so extended as to divest the States of their expressly recognized right to make gold and silver coins a tender in payment of debts. The choice of means is never so narrowed that means cannot be found to execute the expressed powers of Congress without overstepping expressed limitations.

5. Even if it could be maintained, as it cannot be, that the power to demonetize gold or silver, which contravenes the express power of the States to make them legal tender, can ever be obtained by implication, it is not easily conceivable by what species of implication such an act of mere negation as an enactment that gold or silver shall not be a tender, can be necessary to enable Congress to perform any of the functions devolved upon it by the Constitution. It may be true that a power can be implied to issue paper in aid of the expressed powers to borrow money, regulate commerce, declare war, support armies, or collect taxes, but until some form of paper can be devised not hitherto known superior in market-value to metallic money, it cannot be necessary to the circulation of paper that metallic money should be demonetized. No such thing was thought of when the act of February 25, 1862, creating paper legal tenders, was enacted. No implication less sweeping than the implication of a general power to regulate the currency and to control the question of money in all its aspects will cover the ground of demonetizing either metal, and such a power as that will cover the ground of demonetizing both and establishing any conceivable substitute for them.

THE POWER OF CONGRESS OVER MONEY AS AFFECTED BY THE DECISION OF THE LEGAL-TENDER CASES.

There must be admitted to be some hazards in making the concession which the precedent of the legal-tender paper of the civil war, and the decision of the Supreme Court thereupon, compel to be made, that exigencies may arise when it will be "*necessary and proper*" for Congress, in order to execute its expressed powers, to force the currency of paper by law. Whatever the hazards may be, there is no escape from them. It is, however, true that the exigency which existed in the only case which has occurred of the exercise of this power, was real, and that the patriotic motives and high intelligence of those who determined that the necessity for it existed are unquestionable. For the future it will moderate, if it does not wholly dispel alarms, to remember that sentiments of justice and of respect for private rights are nowhere so strong in this country as among the masses of the people, and that while they have often been the victims they have never been the perpetrators of frauds by means of monetary legislation.

Paper money, issued on the ground of being necessary in the execution of expressed powers of Congress, cannot altogether escape certain limitations. On the other hand, the demonetization by Congress of either gold or silver is impossible except upon the theory of the possession by Congress of a general authority over money and tenders, and such authority, if it really exists, is not restricted, as in the case of the States, by the prohibition that nothing but gold and silver coins shall be made a tender. If Congress can demonetize silver it can demonetize gold, or both gold and silver, and can monetize any substance or any form of paper. Narrowing money to gold is for the intended although really doubtful advantage of creditors, but they have more to lose than to gain by affirming a power which can be so easily used in a different direction and to their ruin.

There is no rule of political ethics which either will or ought to restrain those who deny the constitutional existence of a power actually exercised by Congress, from exercising it themselves, if they can. It would be giving a bounty upon the usurpation of a power to leave the use and enjoyment of it exclusively to those who instigate the usurpation, and, furthermore, the question of the constitutionality of a power is ended and concluded for the time being so long as its actual exercise is an existing fact. To say that any power is certain in the end to be used in the interest of the preponderating political forces of the country, would be to say that the people can be reached only by appeals to their selfishness, and are insensible to considerations of justice and patriotism, which is not true. But it is idle to expect that men will not be more solicitous about the protection of their own rights, when they are invaded, than about the rights of the invaders, and it is no new lesson for mankind to learn, that defensive war is never waged more efficiently than when it is waged offensively.

FOREIGN COINS. IF CONGRESS DOES NOT REGULATE THEIR VALUE THE STATES MAY REGULATE IT, AND MAKE THEM A TENDER.

Section 3582 of the U. S. Revised Statutes is in the following words:

> No foreign gold or silver coins shall be a legal tender in payment of debts.

The reference in the margin is to the third section of the act of February 21, 1857, entitled "An act relating to foreign coins," &c., which third section is in the following words:

All former acts authorizing the currency of foreign gold and silver coins and declaring the same a legal tender in payment of debts are hereby repealed, but it shall be the duty of the Director of the Mint to cause assays to be made from time to time of such foreign coins as may be known to our commerce to determine their average weight, fineness, and value, and to embrace in his annual report a statement thereof.

Subsequently, on the 3d of March, 1873, in the first section of "An act to establish the custom-house valuation of the sovereign," &c., it was enacted as follows:

The value of foreign coin as expressed in the money of account of the United States shall be that of the pure metal of such coin of standard value; and the values of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the first day of January by the Secretary of the Treasury.

The foregoing first section of the act of March 3, 1873, is embodied without any change in the Revised Statutes, of which it constitutes section numbered 3564.

Two constructions of the act of February 21, 1857, are possible. One is, that while it does not expressly prohibit the currency of foreign coins, its object and its effect were practically to prevent their currency, by a repeal of all laws regulating their value. Another is, that it substitutes a new rule of valuation. All the former laws, which had been very numerous and had been frequently changed, had specified in dollars and cents the tender value of each and every coin named in them. If the act of February 21, 1857, had repealed these former laws and then stopped, no regulation would have remained of the values at which they should be current. But the act of February 21, 1857, does not stop with the repeal of former laws, but proceeds to prescribe a new mode of ascertaining and promulgating the value of foreign coins.

When two constructions of a law are fairly possible, that construction is to be adopted which will make the law conformable to the duty of the legislators and bring it within their constitutional power, while that construction is to be avoided under which the law would be in derogation of their duty, and plainly transcend their authority. The power which Congress has in the premises is very precisely written down in the Constitution. It is neither to prohibit nor to authorize the circulation of foreign coins, but it is simply to "*regulate*" their value, which can mean nothing else than to declare authoritatively what their value is. Colonel Benton (Thirty Years in the Senate, vol. 1, pp. 444, 445) says:

It was the intention of the Constitution that foreign coins should pass currently as money; this was the design of the States in conferring upon Congress the power of regulating the value of these coins; and all the laws of Congress for preventing the circulation of foreign coins are so many breaches of the Constitution. The only power the Constitution has given to Congress over foreign coins is a power to regulate their value and to protect them from debasement by counterfeiters. It is certainly a most strange construction of that authority to prohibit their circulation.

Section 3582 of the Revised Statutes, declaring that foreign coins shall not be a legal tender, is clearly without support in any constitutional power of Congress, and is therefore invalid. And, furthermore, it is not a correct revision of the act of February 21, 1857, referred to in the margin, because that act contains no prohibition of foreign coins as tenders.

It may be denied that Congress can turn over its power of regulating the value of foreign coins, to be exercised by the executive officers of the Mint. But, on the other hand, it may be claimed that, in the first section of the act of March 3, 1873, since incorporated into the Revised Statutes, Congress does itself regulate the value of foreign coins by defining with exact precision the rule for regulating it, namely, that the

value "*shall be that of the pure metal of such coin.*". The operations remaining to be performed, namely, those of assaying and weighing, are purely executive in their nature.

Upon the whole, the view seems to be the sounder one, in respect to coins of gold and silver the value of which is annually proclaimed under section 3564 of the Revised Statutes, that their value is regulated by Congress under its constitutional power of regulating it.

On this view, such coins are legal tenders without any special action in the premises by the States, and, indeed, could not be deprived of their legal-tender capacity by the States. Foreign coins, the value of which is regulated by Congress, are on the same constitutional footing with coins struck under the authority of Congress.

But if it shall be held that the annual proclamations of the value of foreign coins under section 3564 of the Revised Statutes are not a proper and effective exercise of the power of Congress to regulate the value of foreign coins, the States may themselves, if they shall see fit to do so, regulate the value of such coins until Congress shall effectively exercise its power in this regard. The power of regulating the value of foreign coins possessed by Congress is not an exclusive power, either by the terms of the grant or by its intrinsic character. It is not prohibited to the States, and may therefore be exercised by them, if Congress does not exercise it.

The authorities on this point are harmonious. They will be found collated by Chancellor Kent, (*Commentaries*, vol. 1, page 387, *et seq.*,) who deduces and lays down the true rule:

> The mere grant of a power to Congress does not imply a prohibition on the States to exercise the same power. Thus, Congress is authorized to establish uniform laws on the subject of bankruptcy, but the States may pass bankrupt laws, provided there be no acts of Congress in force establishing a uniform law on that subject. The States may legislate in the absence of congressional regulations. It is not the mere existence of the power, but its exercise, which is incompatible with the exercise of the same power by the States.

This has been so held by the Supreme Court of the United States, in Houston *vs.* Moore, (5 Wheaton, 1,) of which case Chancellor Kent says:

> The doctrine of the court was that when Congress exercised its powers upon any given subject, the States could not enter upon the same ground and provide for the same objects.

It is proper to be noted as a part of the history of this part of the Constitution, that, under the articles of confederation, Congress possessed the coinage power, not exclusively, but concurrently with the States, and did not possess at all the power of regulating the value of foreign coins. The changes made by the Constitution gave the coinage power to Congress exclusively, by prohibiting the States from coining, and also gave to Congress the new power of regulating the value of foreign coins. The words of the grant of power in the articles of confederation are:

> The sole and exclusive right and power of regulating the alloy and value of coin struck by their own authority, or by that of the States.

Story (Commentaries on the Constitution, 1117) says:

> Under the Confederation, there was no power given to regulate the value of foreign coin; an omission which, in a great measure, would destroy any uniformity in the value of the foreign coin, since the respective States might, by different regulations, create a different value in each. The Constitution has, with great propriety, cured this defect.

See, to the same effect, The Federalist, No. 42. As will be noticed, Judge Story treats the right to make foreign coins a tender as unques-

tionably belonging to the States, subject to the power of Congress to regulate the value of such coins. There is no other restriction on it, and if Congress does not see fit to exercise this regulating power, the right of the States may be exercised by them at their unlimited discretion.

There are many reasons, some of convenience and others of high expediency, which require the free circulation of foreign coins. The striking of money is expensive, especially of silver money, and it is a useless tax, either upon the Government or individuals, to require that coins issued by mints as reputable and as reliable as our own, should be recoined at our mints. The managers of our mints compute the actual cost of silver coinage at one and a half per centum of the value. Their dealings with customers in the matter of trade-dollars are made on that basis. Our commerce has always brought the Mexican dollar into this country in good abundance. No more reliable dollar was ever manufactured, and it deserves the world-wide reputation which it enjoys. Whatever disorders there may have been in other branches of Mexican administration, the mint of that republic has always been admirably managed, and still is so. It is a flagrant abuse to subject our citizens who receive the Mexican dollar in lawful commerce to a loss of one and a half per centum in the conversion of that dollar into another which is no better in any respect, and to the additional loss of the time consumed in the operation. The Mexican dollar was the successor of the old Spanish dollar in our circulation, and no coin was better approved in this country when silver was a part of the circulation.

The managers of our mint have the natural desire to enlarge its operations. Personal importance is magnified by such enlargement, and so is patronage. All official bureaus and departments have the same interest. Even courts are not exempt from this infirmity, as it is one of their approved maxims that it is the part of a good judge to enlarge his jurisdiction. There can be no doubt that in the history of this Government there has always been more or less of influence exerted by the officials of the mint in the direction of compelling an unnecessary and wasteful recoinage of classes of foreign coins which have been in no degree improved by recoining.

If the States shall enact that the Mexican silver dollar, or any other foreign coin, gold or silver, shall be a legal-tender at the valuation fixed in the annual proclamations of the Secretary of the Treasury, such legislation, *quacunque via data*, must be good. It would be good, although merely cumulative and superfluous, if such proclamations are an effective exercise of the power of Congress to regulate the value of foreign coins. And it would be good if such proclamations are not an effective exercise of the power of Congress, because the States can regulate the value of foreign coins if Congress does not exercise its power in that respect.

REVISION OF 1874 OF THE LAWS OF THE UNITED STATES.

The laws known as the Revised Statutes of the United States were enacted in bulk in June, 1874, by Congress, under the assurance of the committee of revision that they were a consolidation of the pre-existing laws, without any change and without the introduction of any new matter.

Judge Poland, of Vermont, was one of the members of the House committee on the revision. On the 4th of January, 1876, he had occasion, in a letter to the Secretary of the Treasury, to discuss the question whether a certain change in the Revised Statutes changed the custom-house duty on a particular class of wools. He insisted that, as no change

of any kind was intended by Congress, the language of the Revised Statutes should not be construed so as to make a change, if such a construction could possibly be avoided. He says in this letter:

> The committee repeatedly and publicly declared in the House their purpose not to have the revision make any change in the law, and in their action on this subject they intended to act with scrupulous regard to this pledge to the House. * * * I understand very well that in the construction of a statute its meaning and purpose must be mainly sought in its own language, but the history of and concurrent circumstances attending legislation have often been considered in determining the true intent and meaning of a statute whose language left its object and purpose obscure and doubtful. So in the construction of any section of the revision, where it becomes a question of doubt and difficulty whether a change of law was intended, the fact I have stated above—that the committee so often and so publicly declared their purpose to make no change, and upon which Congress acted—is a matter proper to be considered.

The Congressional Record will show that the statements made by Judge Poland in this letter of January 4, 1876, as to the assurances given to the House by its committee on the revision, are entirely correct. One member of that committee, General Butler, with his accustomed energy of expression, declared to the House that the Revised Statutes proposed for their approval contained "not one word and not one letter" of new matter.

Bearing in mind what Congress intended to do, and supposed it was doing, when it adopted the Revised Statutes in 1874, the inaccuracy of the revision on page 712, being title xxxix, will become apparent.

Section 3586 of this revision reads as follows:

> The silver coins of the United States shall be a legal tender at their nominal value for any amount not exceeding five dollars in any one payment.

No existing law justified this provision, unless it is the law referred to in the margin, and which is the 15th section of the coinage act of February 12, 1873, and is in the following words:

> The silver coins of the United States shall be a trade-dollar, a half-dollar or fifty-cent piece, a quarter-dollar or twenty-five-cent piece, a dime or ten-cent piece; and the weight of the trade-dollar shall be four hundred and twenty grains troy; the weight of the half-dollar shall be twelve grams (grammes) and one-half of a gram, (gramme;) the quarter-dollar and the dime shall be respectively one-half and one-fifth of the weight of said half-dollar; and said coins shall be a legal tender at their nominal value for any amount not exceeding five dollars in any one payment.

Inasmuch as all the provisions of the coinage act of February 12, 1873, authorizing the striking of the trade-dollar, half-dollar, quarter-dollar, and dime are transferred to, and now form a part of, the Revised Statutes, a correct revision of the 15th section of the act of February 12, 1873, would have been to prescribe, not that all the silver coins of the United States, but that the silver coins *authorized to be struck by the Revised Statutes*, should be a tender for five dollars and no more. This would have left the law just as it was left by the act of February 12, 1873, which contains no such thing as a sweeping demonetization of all the silver coins authorized and struck prior to its date, and of all silver coins which might be authorized by subsequent Congresses. The "said coins," limited in their tender capacity to five dollars by the act of February 12, 1873, are precisely described, and they are the trade-dollar, half-dollar, quarter-dollar, and dime. They are all of peculiar weights, differing from the old standard dollar of four hundred and twelve and one-half grains. One of them, the trade-dollar, was wholly new to our legislation, and was intended exclusively for export to the East. The others corresponded very nearly to the underweighted coins authorized twenty years before, and which had never been a tender for more than five dollars. The act of February 12, 1873, did not reduce to five dollars the tender capacity of the old standard dollars which might still be

in existence, or of the silver coins of a less denomination than one dollar which were struck prior to 1853 and were of full weight, and great numbers of which still exist and have re-appeared in actual circulation within the past year.

It is true that the striking of any other silver coins than those enumerated in the 15th section of the act of February 12, 1873, is prohibited by the comprehensive language of the 17th section, which reads as follows:

No coins, either of gold, silver, or minor coinage, shall hereafter be issued from the mint other than those of the denominations, standards, or weights herein set forth.

But what one Congress does another Congress may undo, and it has frequently happened that laws are altered by the same Congress which enacted them. The reason actually assigned in 1873 for dropping the coinage of the old standard dollar was that, in the then market relation of the two precious metals, it was worth 103 cents in gold, and therefore could not be kept in circulation. But the market relation of the metals might change, and has in fact changed. The views prevailing in Congress might also change, as they have often changed in times past, as to the coins they would authorize.

If any Congress, subsequent to 1873, authorized the striking of the old standard dollar, the full tender capacity of such dollar would not be affected by the 15th section of the act of February 21, 1873, which applies only to the "*said coins*" enumerated in it. But such a dollar, if authorized after June, 1874, would be, by the Revised Statutes, reduced to a tender capacity of five dollars.

The variance is vital, between the 15th section of the act of February 21, 1873, and section 3586 of the Revised Statutes. The 15th section (1873) limits the tender of four specified silver coins, differing in weight of silver from the old standard dollar. Section 3586 (1874) limits the tender of all silver coins, present, past, and future. It applies not only to the four silver coins then authorized, but to all the silver coins which had been struck prior to 1873, and many of which in actual existence were full legal tenders, notwithstanding the act of February 21, 1873. And it will apply, by legal construction, to all silver coins hereafter authorized by Congress, and not specially excepted from its operation.

Section 3584 of title xxxix of the Revised Statutes is as follows:

No foreign gold or silver coins shall be a legal tender in payment of debts.

As already stated, it appears from the marginal reference that this is claimed to be a revision of the 3d section of an act passed February 21, 1857, relating to foreign coins. And, as already shown, whatever may have been the practical effect of that act, or whatever may have been the object of its framers, it contains no such language as that "*no foreign gold or silver coins shall be a legal tender in payment of debts,*" nor any approximation to such language. What it does is to repeal "all former acts authorizing the currency of foreign gold or silver coins, and declaring the same a tender in payments of debts," which left the case precisely as if Congress had never legislated on the subject at all, unless subsequent clauses of the act are construed to prescribe a new regulation of the value at which foreign coins may be current. In no part of it, and by no possible construction, does the act prohibit the currency of foreign coins, or declare that they shall not be "*a legal tender in payment of debts.*"

The duty of revisers and consolidators of laws in such a case seems to be very plain. It is simply to leave out of the revision the laws which are repealed. Indeed, there is nothing left to be revised. What the effect may be of the non-existence of any law of Congress "author-

izing the currency of foreign gold or silver coins," whether because no such law was ever enacted, or because all such laws may have been repealed, is a question with which revisers have no proper concern. But in this case they have gratuitously and most strangely assumed that to repeal laws which fixed particular rates at which foreign coins should have currency, is the same thing as prohibiting their currency.

One erroneous revision, tending to effect a particular object, may excite only a suspicion that the error arose from design and not inadvertence. But two erroneous revisions, both tending to effect the same object, change the suspicion into an almost conclusive conviction. When to a surreptitious introduction into the Revised Statutes of words demonetizing all the silver coins of the United States, is added the surreptitious introduction of words prohibiting the currency of foreign silver coins, the design being masked against casual observation by the generality of a prohibition of the currency of foreign coins, both gold and silver, it is impossible to doubt that the laws of the country have been tampered with. Who the perpetrators of this crime were, is not likely ever to be satisfactorily known. It is by no means certain that they were the persons officially connected with the revision. The artful suggestions which mislead those who draught laws often come from outside and unsuspected parties.

It may be said, in respect to these criticisms upon the revision to be found in title xxxix, that even if well justified they are without practical importance, because the Revised Statutes must be interpreted and enforced according to the language actually found in them. But when the question of the constitutionality of any part of the Revised Statutes is presented for judicial decision, it will be found to make the greatest possible practical difference, whether such part was adopted knowingly and intentionally by Congress, and truly represents its will, or crept into the law through the blundering or design of clerks, committees, copyists, revisers, enrollers, or other persons. Courts uniformly declare that a proper deference to the law-making power requires them to presume that laws are constitutional unless the contrary plainly appears. They regard the setting aside of laws on the ground of unconstitutionality as involving a grave and weighty responsibility, to be assumed only after cautious consideration. Courts would regard in a very different light any sections of the Revised Statutes which proved, upon examination, to be not revisions, but perversions of the laws. And if such perversions, whether the result of ignorance or design, are also "*breaches of the Constitution*," as the section prohibiting the currency of foreign coins manifestly is, the courts, which pronounce them to be so, will not overrule any decision of Congress, but will protect that body against what is really an invasion of its authority.

It may turn out that the courts may be able, by a courageous use of the resources of construction, to interpret section 3586 of the Revised Statutes as confined to the particular silver coins, to the striking of which the Revised Statutes restrict the Mint. Such a construction would make the section what it ought to be, by making it conformable to the act of February 12, 1873, referred to in the margin of it, and of which it should be a transcript without change of substance.

THE STATES CAN MAKE ANY GOLD OR SILVER COINS OF THE UTITED STATES LEGAL TENDER FOR ALL SUMS.

It is sometimes said that the States cannot give the capacity of full legal tender to the silver coins, the striking of which is authorized by

the present laws of the United States, because they are under-weighted, with the exception of the trade-dollar, which is intended exclusively for foreign purposes. To this two answers may be made, either of them sufficient.

There is no standard silver dollar authorized by law, or any other standard, by comparison with which the present half-dollars, quarter-dollars, and dimes can be said to be under-weighted, and in no sense whatever are they under-weighted.

Taking the weights of these silver coins and the weights of the gold coins as now prescribed, the relation between gold and silver is 14.95 to 1, which varies very little from the relation of 15 to 1 fixed by Mr. Hamilton in 1792. At the present market relation of silver to gold, the relation of 14.95 undoubtedly overvalues silver; but the present market relation is admitted to be abnormal. In the opinion of many well-informed persons, the paramount and controlling tendencies, founded upon the facts of mining, are toward an appreciation of silver. But, however that may turn out, the right of Congress to establish the relation of 14.95 to 1, or any other relation, is unquestioned and unquestionable.

But if the half-dollars, quarter-dollars, and dimes are now under-weighted, or if they shall become so hereafter, by the striking of a silver dollar of a different proportional weight, the right of the States to make them a tender for all sums is not and will not be affected. Whatever their weight may be, they will be silver coins of the United States, and it is a scandalous and altogether inadmissible supposition that the Government of this country will ever issue coins for the purposes of profit, the equality of which in market-value with all other coins it does not adequately secure, by limitation of quantity, redemption in other coins, receivability for taxes, or some other effective method. No government in Europe issues any such fraudulent coins, or would dare to do it. It is in small silver coins that the wages of labor are paid, and it is not to be assumed as possible that the Government of this country will ever issue such coins without maintaining their full value. If such a thing is possible, and shall actually occur, it may be a question whether it would not then become the special duty, as well as right of the States, to preserve such coins from discredit and depreciation by making them a full legal tender.

LEGISLATION IN EUROPE AND THE UNITED STATES IN RELATION TO SUBSIDIARY SILVER COINS MINTED BELOW WEIGHT OR STANDARD.

Silver was adopted January 24, 1857, as the exclusive standard by all the German states, then including Austria. This was done by what is called the Vienna Coin Convention. This convention provided also for a subsidiary silver coinage, to be a tender for an amount not exceeding the value of the smallest coin of full weight and standard issued by the states respectively, and each state was bound to redeem these subsidiary coins in other coins of full weight and standard and having the capacity of unlimited legal tender.

In Spain, by a royal decree of October 19, 1868, a subsidiary silver coinage was provided $\frac{835}{1000}$ fine, the Spanish standard being, like the French, nine-tenths fine. These subsidiary coins were made a tender for not exceeding fifty *pesetas*, (about $9.30.) But the decree adds that

"*the state, however, will receive them from the tax-payers without limitation.*"

The subsidiary silver coinage of France, Italy, Belgium, and Switzerland, constituting the Latin union, is regulated by the convention between them of December 25, 1865. It is not under-weighted, but is below standard, being $\frac{835}{1000}$ fine, whereas the standard of those countries is nine-tenths fine. It is made a legal tender to an amount not exceeding fifty francs, but only to the citizens of the country issuing it. This coinage of each country is made receivable for taxes in all the countries comprising the Latin union for any amount not exceeding one hundred francs; but in the country issuing it, this receivability is "*without limitation of quantity.*" And each country is obliged to redeem its subsidiary coins in coins of full standard, when presented in sums not less than one hundred francs, by either the governments or citizens of the other countries. The last provision remains in force for two years after the convention expires.

The silver and other minor coins of Germany, which are tenders for only small sums under the new monetary *régime* of the single gold standard, are regulated by the law of July 16, 1873, article 9 of which directs that the silver coins shall be received at the treasuries of all the states and of the empire for all sums, and further directs that the Federal Council shall designate public treasuries where redemption shall be made in gold, of silver coins when presented in sums not less than 200 marks, (about $50,) and of nickel and copper coins when presented in sums not less than fifty marks. Article 10 directs that pieces of silver, nickel, and copper reduced by wear below weight shall be accepted for taxes at their nominal value at all public treasuries, and be retired from circulation, and that the loss shall be borne by the empire.

The law of Holland of 1875, providing (among other things) for subsidiary silver coins to be a tender for twenty florins, (about $8,) makes them receivable in any amount for all taxes. And it also provides that such coins, when presented in sums not less than fifty florins, and bronze coins when presented in sums not less than five florins, shall be redeemed by the government in gold, or in such silver coins as have the capacity of full legal tender.

The adoption of the single gold standard by the Scandinavian states, and the issue of silver coins as a tender for small sums, was arranged by a monetary treaty (December 18, 1872) between Sweden and Denmark, and by a law (June 1, 1873) of Norway. In both the treaty and the law it is provided that these coins shall be received for all taxes until they are so much worn that it cannot be seen by what country they are issued, and that they shall be redeemed in gold, when presented in any sum divisible by ten crowns. And this last provision is made also in respect to the bronze coins.

The British law of 1816, establishing the single standard of gold, but authorizing silver coin as a tender for forty shillings, ($9.72,) had the peculiarity that it did not restrict this subsidiary silver coinage to the government. Any owner of silver sufficient to make sixty-two shillings on the relation between gold and silver as existing in England since 1717, could have it coined, but the mint struck from it sixty-six shillings, of which it retained four for all charges and as a profit, and delivered sixty-two to the depositor. The security against an oversupply of subsidiary coins was, that silver would not be brought to the mint if sixty-two coined shillings were less valuable in the market than silver enough to have been coined into sixty-six shillings.

Undoubtedly this did adequately secure an equality of market-value

between sixty-two coined silver shillings and a weight of silver bullion sufficient for sixty-six such shillings. And it also adequately secured an equality of market-value between twenty coined silver shillings and a sovereign, or a pound sterling in gold, so long as silver did not depreciate sensibly in the market below the relation of silver to gold established by the British mint regulations.

The British coinage act of 1870 does not contain the provision of the act of 1816, which authorized anybody to carry silver to the mint for coinage. The practice under the act of 1870 has been the same, however, as it had been during many years previously, all the dealings with the mint for the coinage of both gold and silver, for the supply of England, being carried on by the Bank of England. If its stock of silver coins accumulates, it ceases to procure their further coinage until the current changes and a declining stock threatens a scarcity. The same office is performed for Scotland and Ireland by the banks of those parts of the British Empire. An examination of the annual reports of the master of the mint, for several years before as well as after 1870, shows no deliveries of silver coin outside of the Bank of England and the Irish and Scotch banks, except small sums for the military chests of troops stationed elsewhere than in the United Kingdom, and occasionally for the supply of the governments of those colonies which have no mints.

Neither the act of 1816 nor that of 1870 provides for the redemption in gold, or receivability for taxes, of the silver coinage. But neither act prohibits or limits such receivability in any branch of the revenue, nor is any such prohibition or limitation supposed to be enforced in practice. The Bank of England, which is the principal depository of government funds, can have no reason for declining to receive silver coins, when it is constantly purchasing them at the mint at full prices.

The European precedents seem to be uniform, therefore, in favor of the policy of securing an actual equality of market-value between subsidiary silver coins deficient in weight or standard and other coins. It is not believed that there is any case in Europe in which a government issuing coin has repudiated and discredited it by refusing to receive it for any debt or tax of any description.

The precedents in this country are the same way, with a single unimportant and very temporary exception, that of the silver three-cent piece as it was originally coined, three-fourths fine, under the act of March 3, 1851. The act of August 31, 1852, prohibiting the receipt for government dues of coins below the regular standard of nine-tenths fine, would apply to the three-cent piece as originally coined, but ceased to be applicable after March 3, 1853, when that coin was directed to be struck of the full standard.

The silver coinage under the act of February 21, 1853, being of full standard, although under weight, did not come within the prohibition of the act of August 31, 1852, nor does the silver coinage issued under the laws as codified in the Revised Statutes of 1874.

The same policy of securing to small money an equality of relative value with large money, governed the legislation of this country in respect to the paper issues of the period of the civil war. It is true that those who then controlled public affairs established two moneys, but they did not establish one money for small transactions and another money for large transactions. They established two moneys for different classes of debts, with no reference to their magnitude. All ordinary persons were compelled to receive paper for their debts, however large,

while bondholders were promised and secured payment in coin of the interest on their bonds, however small the amount might be.

In the paper issues there was a fractional currency, but this had secured to it an equality of relative value with paper of the highest denominations, by redemption in such paper.

This provision made the fractional paper currency, although not a legal tender for any sum, great or small, actually equal in market-value and current acceptability to the greenback.

The theory of this legislation, thus uniform in Europe and the United States, manifestly is, that the money in which wages are paid and retail transactions are carried on should be practically interchangeable without discount, with money of the largest denominations. An inferior currency for small transactions, and a superior currency for large transactions, would subject laborers to constant loss, not merely in the payment of such debts as could not be discharged in the inferior currency, but in all their ordinary purchases. Goods bought at wholesale, and therefore with the superior currency, could not be retailed for the inferior currency without such an addition to their price as would cover the difference of the two currencies.

Tender for private debts, and receivability for taxes and other duties to the United States, are things entirely distinct and independent of each other. Special laws have always defined exactly and specifically what the United States would receive. The existing laws, as consolidated in the Revised Statutes, do so. There are no limits upon the discretion of Congress in the enactment of such laws, except that they must observe the rule of uniformity as respects persons and localities. Any kind of money might be refused, and taxes collected in kind, in cases admitting of that mode of collection. The Treasury notes issued under the act of February 25, 1862, are a legal tender for private debts of every description and for all amounts, but they are not receivable for import duties. The fractional paper currency is not a tender for any amount, nor are national-bank notes, but under acts of Congress they are receivable in certain branches of the public revenue, this receivability being limited, in the case of the fractional currency, to a specified sum. The whole history of legislation in the United States shows that questions of tender for private debts and of receivability for taxes have no connection with each other.

The existing laws which control the kind of moneys to be received for the several descriptions of dues to the United States are as follows:

Section 962 of the Revised Statutes prescribes that in suits for the recovery of custom-house duties the judgments obtained shall be "*payable in the coin by law receivable for duties.*"

Section 1746 is in the following words:

All fees collected by diplomatic and consular officers for and in behalf of the United States shall be collected in the coin of the United States, or at its representative value in exchange.

Section 3009 is in the following words:

All duties upon imports shall be collected in ready money, and shall be paid in coin, or in United States notes payable on demand, authorized to be issued prior to the 25th day of February, 1862, and by law receivable in payment of public dues.

Section 3473 is in the following words:

All duties on imports shall be paid in gold and silver coin only, or in demand Treasury notes, issued under th authority of the acts of July 17, 1861, chapter five, and February 12, 1862, chapter twenty; and all taxes and all other debts and demands other than duties on imports, accruing or becoming due to the United States, shall be paid in gold and silver coin, Treasury notes, United States notes, or notes of national banks.

Section 3474 is in the following words:

No gold or silver other than coin of standard fineness of the United States shall be receivable in payment of dues to the United States, except as provided in section 2306, title Public Lands, and in section 3567, title Coinage, Weights, and Measures.

Section 2366, referred to in section 3474, provides as follows:

The gold coins of Great Britain and other foreign coins shall be received in all payments on account of public lands, at the value estimated annually by the Director of the Mint, and proclaimed by the Secretary of the Treasury in accordance with the provisions of section 3564.

Section 3567, referred to in section 3474, fixes the special rates at which the quarters, eighths, and sixteenths of the Spanish and Mexican silver dollars shall be received at the post-offices and land-offices.

In the margin of section 3474, reference is made to the second section of an act making general appropriations for civil purposes, approved August 31, 1852. The words of the section referred to are as follows:

No gold or silver other than coin of standard fineness of the United States, or foreign coin in the manner prescribed by existing laws, shall be receivable in payment of dues to the United States.

It seems clear that all the silver coins now authorized to be struck at the mints are receivable for all dues to the United States. They are of "*standard fineness*," as required by section 3474 of the Revised Statutes, which is a revision, in that respect, of the act of August 31, 1852.

Precisely the same language, which is the only legal warrant for receiving them for "*all taxes and all other debts and demands other than duties on imports*," makes them receivable for "*all duties on imports*," and if their receivability is prohibited or limited in respect to customs-dues it must be prohibited or equally limited in respect to all dues.

It may be true that the receiving of subsidiary silver coins at the custom-houses would carry them to so near a parity with gold as to render it impossible to keep them in use as a fractional money, so long as the actual currency of the country consists of legal-tender paper. That consideration, however, has nothing to do with the construction of existing laws, but addresses itself to those who have the power to make new laws.

It is said that efforts are being made to induce the Treasury Department to hold that, under existing laws, subsidiary silver coins are not receivable at all at the custom-house, and that for other taxes and dues to the United States they are receivable only to the extent of five dollars in any one payment.

It is not easy to conjecture upon what view of the meaning of words in existing laws either of these proposed constructions is possible. It is less difficult to foresee what their effect would be if they should be adopted.

To refuse the subsidiary silver coins at the custom-houses would prevent their attaining a parity of market-value with gold.

To restrict their receivability for taxes and dues which are payable in greenbacks to five dollars in any one payment would tend to depreciate them below the greenback, inasmuch as there is no such provision for their redemption in greenbacks as there was and is in respect to the fractional paper currency. The extent of their depreciation, down to the limit of their bullion-value, would depend upon the amount issued, as that may be regulated, and changed from time to time, by laws, or by executive constructions of law. There would thus be substituted for the fractional paper money underweighted and overvalued silver coins, discredited by the Government issuing them, and exposed to the danger of serious depreciation. The profit resulting from their issue is a con-

stant temptation to enlarging the amount issued, and the checks of receivability for taxes or of redemption will not exist. There is certainly no precedent for such a policy of lowering the value of the money of all the smaller transactions of life to be found in the past history of legislation in this country, or in the practices of the civilized governments of Europe. The poor are entitled to as good money as the rich, although they may have less of it, and no laborer should be compelled to receive his wages in anything which will not, by some conversion in the market without loss, pay off the mortgage on his house, or any other debt which he may owe, and which does not have as great a purchasing power, dollar for dollar, as the money of other classes in the community.

The losses will not be confined to laborers, although they will bear the larger part of it. Retail-dealers in merchandise can indemnify themselves against inferior money by higher prices, but there are many receipts, in the nature of fixed charges, where that species of indemnification is not practicable. In such cases, the receiving party must bear the loss. He will submit to it if he must, but if his position is an independent one, he will reject the money altogether; and every such rejection increases its depreciation.

The objection is to investing any form of subsidiary paper or coined money with the legal-tender function for the small sums in which wages are paid and in which retail transactions are made, without in some way keeping it on an equal plane of value and currency acceptability with the money which may be the full tender in actual use. Such a system despoils laboring men by a sure although insidious process. The fractional money which they necessarily receive in payment of their wages will not, under such a system, pay the large debts which they may owe, except at a discount, and while it is nominally received at par in the small purchases which they make, prices are and must be raised upon them, which is practically the same thing as obliging them to part with their money at a discount.

Refusing to receive the subsidiary silver coins at custom-houses is not open to this objection. Such a measure would tend to deprive them of a parity of market-value with gold, but although a full tender, gold is not in actual use as such, there being another full tender which is more available. But the objection does lie against refusing or restricting their use in discharging any taxes or dues to the United States, which may be discharged by the United States notes which constitute the money in actual use.

Whether the legal-tender function ought to be given to debased or under-weighted silver coins, and whether, if given at all, it should be limited to any particular sum, and, if so, to what sum, are questions which have been very little discussed in this country. A debased silver three-cent piece was authorized March 3, 1851, but the striking of debased, or under-weighted, silver coins, on any scale to attract attention, was first authorized by the act of February 21, 1853, which was framed by the Finance Committee of the United States Senate. The accompanying report of the chairman of that committee, Mr. Hunter, of Virginia, which is elaborate and signally able, was mainly confined to an exposition of the mischiefs of a single standard of either gold or silver.

The practical difficulty existing at the time was the premium on silver as measured in gold. The obvious expedients to keep silver coins from the melting-pot and from exportation, and to retain them in the home circulation, were, either to debase them, or strike them below weight, the latter expedient being the one actually adopted. The provision making them a tender for small sums, and for small sums only, seems

to have been adopted from the English precedent with very little consideration, and especially without attention to the circumstance that gold was the exclusive standard in England, and that silver was on no better footing there than copper, whereas here it had the same rank as gold.

It is plain enough that the argument of necessity for giving the legal-tender function to underweighted silver coins, can go no further than to justify giving them that function for sums below the denomination of the smallest full-weighted coin. That was the principle which regulated the old English royal proclamations making copper coins a tender, but only for sums below the smallest English silver coin, which was a sixpence. And it is the principle which governed the Vienna coin convention of 1857.

Since 1862, this country has had a long experience with a fractional paper currency, which answered perfectly well all the purposes of such a currency without being made a legal tender for any sum. It did so by being kept always equal in market-value with the full-tender United States notes by redeemability in such notes. It is probable that an equal receivability for taxes would have accomplished the same result without redemption.

It being the practice of governments to control the issue of subsidiary coins, deficient in weight or standard, receivability for taxes seems to be a sufficient check against overissues. If the channels of circulation of that class of coins are overcharged with them, the excess will return to the public chest in the revenue receipts. There will be an ebb and flow with the fluctuations of trade and business activity, but the limits of the ebb and flow will not be inconveniently great.

But while the fractional paper currency was entirely acceptable by reason of its redemption in full-tender United States notes, without being itself a tender for any sum, it is not apparent that any evils would have resulted if it had been made a tender for limited sums, or even for all sums.

THE TRADE-DOLLAR.

In December, 1876, Dr. Linderman, Director of the United States Mint, invited, from the presidents of certain banks in San Francisco, facts and opinions in respect to the utility to commerce with China of the trade-dollars, which are called "Trades" on the Pacific coast.

Louis McClane, president of the Nevada Bank of San Francisco, replied December 28, 1876, as follows:

> They have the advantage of being legal tender in Foo-Chow, Saigon, Singapore, and Hong-Kong, and also are received in payment of custom duties at the three first-named ports, and at Canton. Have heretofore been weighed at Hong-Kong. Will be taken by count after the 1st proximo for sixty days as an experiment, probably as an entering wedge to its permanent adoption as a legal tender by count.

D. O. Mills, president of the Bank of California, replied, December 11, 1876:

> We understand the trade-dollar to be a legal tender at Canton, but at the other ports it passes as an ingot of silver, according to its weight and fineness.
>
> Our experience shows that the Chinese merchants give preference to the trade-dollars over drafts on China payable in local currency.

F. F. Low, president of the Anglo-California Bank, replied, December 12, 1876, that in China silver bullion, usually called *sycee*, is cast into ingots by the bankers and melters, each port having its peculiar stand-

ard or *touch;* that such ingots are current according to the weight of pure silver in them; that this weight is expressed in *taels*, (the *tael* being about one ounce,) and that the exact weight of the *tael* varies in the different ports. Mr. Low says further:

Spanish dollars found their way into China when foreign trade commenced, and by usance became known to the people in all the maritime provinces. Their uniform weight and fineness soon fixed their value, as compared with the tael, and (they) were for many years almost exclusively used in settlement of purchases of tea and silk made for foreign merchants.

Subsequently Mexican dollars were introduced, and in course of time practically supplanted the Spanish dollar. Recently the trade-dollar of American coinage has been introduced. This coin was received with hesitation at first, but upon repeated tests of its weight and fineness being made, its intrinsic value became fixed, and at the present time it is received with great favor at the ports of Canton, Swatow, Amoy and Foo-Chow. Indeed, so reliable has this coin proven, that the viceroys of the provinces of Kwang-tung and Fokien (in which the four ports above mentioned are situated) have ordered that they be received in payment of customs duties, at their standard value, as compared with the tael. At Hong-Kong they have been current at a premium over the local bank-paper currency, nearly or quite equal to that ruling for Mexican dollars.

The ignorance of the people regarding everything of a foreign origin, makes them suspicious; hence, they always incline to adhere to the *old* and reject everything *new;* and in the matter of introducing new coins into China, the difficulty is enhanced in no small degree by the hostility of the native and foreign banks and bankers whose profits are lessened by the introduction and use of a coin of uniform weight and fineness.

The basis upon which these trade-dollars are received at certain Chinese custom-houses, will appear from the following proclamation issued in October, 1873, by the governor-general of the two Kwang provinces, the governor of Kwang-tung, and the superintendent of customs for the Canton province:

Whereas the foreign silver (coin) in daily use among the people of the Kwang-tung provinces has long been in circulation, and is moreover admitted to be advantageous and convenient. In the 5th and 11th years of Tung-Chih, (1866 and 1872,) the Hong-Kong mint coined a new dollar, which, upon comparison with pure silver, bore a proportion of fully 90 per cent., and as the records will prove. Proclamations were issued notifying the people that it might come into general circulation. There has lately come to Hong-Kong a newly-coined American eagle-dollar called the "trade-dollar," and Sir Brooke Robertson, the British consul, having requested that officers might be appointed to assay it, the viceroy thereupon appointed officers to melt it down and assay it, in concert with an officer from the British consulate, when, taking the Haikwan tael of pure silver as the standard, an outturn was obtained of fully 89.91; or, taels 111.6 of this new eagle-dollar are equal to 100 Haikwan taels of pure silver. Minutes of the assay were drawn up in proof thereof.

For the convenience of traders and people, therefore, this coin should be allowed to be tendered in payment of duties at the rate of touch obtained at the assay, and to come into general circulation. It becomes the duty, then, of the viceroy and his colleagues to issue a proclamation on the subject for general information.

This proclamation, therefore, is for the information of you merchants, traders, soldiers, and people of every district. You must know that the eagle "trade-dollar," that has lately come to Hong-Kong, has been jointly assayed by officers specially appointed for the purpose, and it can be taken in payment of duties and come into general circulation. You must not look upon it with suspicion.

It is very clear that the trade-dollar has no recommendation for use in China over any silver coin which might have been struck at our mint, and that in particular it has none over the old American silver dollar. The Chinese accept silver coins only for the actual amount of pure silver which they contain. The trade-dollar contains 420 grains, nine-tenths fine. It would have been equally acceptable, on a proportionate valuation, at a weight of 350 grains, or of 412½ grains, which was that of the old American silver dollar. The trade-dollar was authorized by the same act (1873) which prohibited the coinage of the old dollar, and will become useless, and worse than useless, if the old

dollar is revived. Two dollars of the same standard, but different weights, can only lead to confusion and discredit.

The trade-dollar appears to have been useful in the absence of a dollar, which is a tender and lawful money in this country, but it is attended with the inherent difficulty that it will not exist in sufficient stock to meet the wants of commerce, unless the Government keeps it in stock, and this involves a heavy expense in the loss of interest.

The trade-dollar, not being a tender and money here, cannot be kept on hand by individuals or banks in San Francisco at a less expense than three-fourths of one per cent. per month, reckoning the annual interest of money in that city at nine per cent. At that rate of cost for keeping it in stock, either no quantity will be kept sufficient for the demands of Asiatic commerce, or, if it is kept, the cost of keeping it will so enhance the price of the coin as to make it unavailable.

Louis McClane, in the letter before quoted from, points out the difficulty and suggests a remedy:

> If the mint had a sufficient number of Trades on hand to meet the demand for any one steamer for China, say $500,000, so that orders from London could be filled promptly and with certainty, the greater portion of our silver product available for export would be sent to China in the form of trade-dollars.

It would seem from this that there is now no certainty of an ability in San Francisco to fill at once an order for even a sum comparatively so small as half a million of dollars. If dollars are useful at all in our Asiatic trade, there should be a capacity there to fill any day an order for ten times that amount. Such a capacity would exist if dollars were money, and therefore formed a part of the resources of banks and bankers. Undoubtedly also the Government could create such a capacity by a general rule of keeping on hand at the San Francisco mint five millions of trade-dollars. By borrowing the money for that purpose in cheaper markets for money, it could probably do this at a cost of one-half of 9 per cent. per annum. The advantage to commerce may justify the expenditure, but it will be rendered unnecessary by the restoration of the old legal-tender dollar.

The restoration of the American silver dollar to its old rights of coinage and tender would render it practicable to restore the Mexican dollar also to its old position as money in this country, a measure of immense importance to the commercial and financial interests of San Francisco. Being again money, it would always be in ample stock there, and its tendency, already manifested, to flow to that city rather than to London, would be increased and would become irresistible. The direct advantages of that, and its indirect advantages in stimulating the return-trade to Mexico, are obvious.

London is not a consuming market for silver, but an *entrepôt* for it, and the London price is always the Asiatic price, less the costs of all kinds of sending it to Asia. As the price of silver in San Francisco must always be at least as high as the Asiatic price, less the cost of sending it to Asia, and as this cost must be less than the cost of sending it from London, it results that what may be called the natural price of silver, aside from its capacity as a tender, should be somewhat higher in San Francisco than it is in London. But at even equal prices, San Francisco should attract the bulk of the Mexican silver, inasmuch as the Mexican silver-mines are nearest to the west coast, and as the Mexican silver-shipments are most naturally made and are now in fact largely made from the west coast. These circumstances, tending to make San Francisco, rather than London, the receiving-point of Mexican dollars, and the point from which to export those dollars to Asia, are already

beginning to be felt, notwithstanding the advantages of London in capital and in long-established financial and commercial connections. The influence of these circumstances would receive a decisive addition if Mexican dollars were money in San Francisco. In the present position of things there is no demand for them except on or near the sailing-days of the Asiatic steamers, and not always then a sufficient demand to take off all the stock there may be on offer, and the surplus must in that case lie over till the next steamer-day. But for money there is a demand every day, and every hour of every day, and if Mexican dollars were money, the delay in realizing the value of an invoice of them received at San Francisco could never exceed the time consumed in carting them from the ship's side to a bank-vault. That is a matter important everywhere, and especially important in San Francisco, where rates of interest are high, and will remain high for a long period.

INDEX

OF

REPORT OF U. S. MONETARY COMMISSION.

Page.

ALISON, SIR ARCHIBALD:
Effects of gold-resumption in England 33

ASIA:
Demand of, for silver 74, 75, 76, 77, 86
Exports of gold and silver to 74

BONDS OF UNITED STATES:
Payable in coin, not gold 94–101
Hazard of promising gold 93
Importance of option to pay gold or silver 94

BEHREN, JACOB:
British interests served by establishing the gold standard throughout the world 103

BARING, ALEXANDER:
His objections to gold standard 114

BOUTWELL, GOVERNOR:
Impossible to borrow gold abroad 103, 104

BROWNE, ROSS:
Predictions of enormous silver-production 17

CAIRNES, PROFESSOR J. E.:
Foreign trade of United States not affected by paper money 111

CERNUSCHI, M.:
Estimate of gold and silver in France 72

CHEVALIER, M.:
Predictions of fall of gold 15, 16

CHINA:
Mint proposed in 76

COMMERCE:
Aggregate of Great Britain, France, and United States since 1834 22
Of Great Britain 22
Of France 23
Of United States 23
Of Italy 23
General advance of, after California discoveries 23, 24

COMSTOCK LODE:
Exaggerations of yield of 2
Actual yield of 3
Discovery of 17

CRAWFORD, WILLIAM H.:
General poverty the result of shrinking money 60

DARK AGES:
Shrinking money one great cause of 50

DEBTS:
National debts of the world 62
Public, corporate, and individual debts in United States 62, 63

DENMARK:
Sales of silver by 73

DOLLAR, SILVER:
History of, and comparison with pound sterling 115, 116, 117
First proposed by Mr. Jefferson as unit of value in United States 116
Approved by General Washington 117

	Page
DOUBLE STANDARD:	
General reasons for	8–13
DEMONETIZATION OF SILVER:	
Origin of the scheme of	15, 16
Real object of	17
Argument for, in 1869, before French commission	16
Carried in United States without public observation	89, 90
ECONOMIST, LONDON:	
Evils of gold standard in United States	66
Remonetizing silver in United States would restore its price	66
Its argument in 1868 that gold was deficient	122
Predicted the disasters to flow from the German demonetization of silver.	122
FAUCHET, LEON:	
Ruinous effect of gold standard	61
FRANCE:	
Estimated metallic circulation in	30, 72
Gold absorbed in, after California discoveries	30, 79
Silver consumed in, by manufacturers	82
GERMANY:	
Progress of, in demonetizing silver	70, 71
GOLD:	
Production of, since 1848	106
Present amount in coin and bars in Western World	106
Present amount in coin and bars in Great Britain, Germany, and France	127
Estimated annual consumption in Great Britain	107
Violence of the fluctuations in	114
GOLD AND SILVER:	
Relative value of	3, 25, 26, 27
Estimated production of, since 1848	7, 14, 78
Stock of, in 1492	8
Production of, between 1492 and 1848	26
Production of, between 1809 and 1849	26
Aggregate yield of, declining	20
Causes of steadiness of relative value	28
Power of double-standard countries to steady relative value of	29
How law steadies relative value	28, 29
Their concurrent circulation	10
Divergence of relative value always caused by the rise and not by the fall of one of the metals	11, 12
Relative value controlled by two great forces, American supply and Asiatic demand	77–80
Proportion of, in Western World since 1848	78
GREAT BRITAIN:	
Increase of wealth of, since 1848	24
Estimated metallic circulation of	30
Estimated silver circulation of	71
Consumption of silver	73, 81
Consumption of gold in	107
Monetary panics the fruits of its gold standard	113, 114
GRANT, PRESIDENT:	
Not aware in 1873 of demonetization of silver	89
HAMILTON, ALEXANDER:	
His reasons for preferring the double standard	60
HOLLAND:	
Monetary system of	68
Objections of statesmen of, to gold standard	114
HUMBOLDT:	
Fluctuations of relative value of gold and silver	3, 4
HUME, DAVID:	
Fatal effects of shrinking money	60
HUNTER, R. M. T.:	
Report against single standard	60
INDIA:	
Silver imports and coinage	74
Gold imports	74

Page.

INDIA—Continued.
Increasing use of silver coins 75
Silver imports in 1876 76
Power of, to exchange gold for silver 77

ITALY:
Exports since 1865 of silver from 69, 70

JEVONS:
Estimates of changes in the purchasing power of the precious metals between 1809 and 1849 and between 1849 and 1865 21
Portability of metallic money of little importance 32
Power of the East to absorb silver 86

LAVALEYE, PROFESSOR:
Single standard despoils debtors 61

LAWS, UNITED STATES MONETARY:
General view of 87–90
Establishing a subsidiary silver coinage 88
History of law demonetizing silver 88, 89, 90

LATIN UNION:
Treaty constituting the 30
Modification (1874) of that treaty 68, 69
Present attitude of 69

LIVERPOOL, LORD:
Reasons assigned by him for demonetizing silver 13

LIVERPOOL, PRESIDENT OF CHAMBER OF COMMERCE OF:
Predicts that demonetizing silver will beggar all indebted nations 65

MCCULLOCH, J. R.:
Advantages of abundant money 60

MINING:
Results of, depend principally on chance 35

MONEY:
Views of advocates of metallic money 39, 40
Views of advocates of paper, or fiat money 40–47
The modern scheme of a metallic money regulated by governments 47, 48
Effects of an increasing volume of 49
Increasing volume of, sometimes needed 49, 50, 51
Effects of decreasing volume of 53, 54, 55
Interest of, not lowered by increasing quantity 53
Shrinking money fatal to laborers 55–59
Standards of, in various countries 66, 67, 68
Shrinking money the primal cause of the present distress 117–124

NEVADA:
Silver product of 3

NEWTON, SIR ISAAC:
Cause of fluctuations of silver in London 27, 28

PARIS:
Conference of 1867 in 64
Consumption of silver in 73

PRICES:
No increase of, until seventy-eight years after discovery of America 8
No increase of, for eight years after discoveries of gold in California 7
Depend on quantitative relation between money and other things 33, 34
Not controlled by banking devices or by credits 36, 37, 38
Steadiness in, most desirable 51, 52

PAPER MONEY: See MONEY.

DE QUINCEY:
Predictions of gold-yield on the first discoveries in California and Australia 15

RAILROADS:
Miles built since California discoveries 23

RESUMPTION IN GOLD:
Impossible and ruinous 103–108, 126, 127, 128

ROULAND, GOVERNOR OF BANK OF FRANCE:
Danger of demonetizing silver 61

Page.

ROTHSCHILD, (THE PRESENT FRENCH BARON:)
Reasons for the double standard 61
Advantage of silver in the currency 113

RICARDO, DAVID:
Fatal error as to effect of British gold-resumption 107

SEYD, ERNEST:
Reviving effects of an increasing volume of gold 60
Estimate of silver in France 72
Cause of silver-fluctuations in London 27

SHERMAN, JOHN:
Ruinous effects of increasing burden of debts 33
Report in 1863 in favor of an exclusive gold standard 108
His mistake about United States gold-production 108

SILVER:
Yield of 18, 19
London prices of, at various dates 27
Weight and bulkiness of 32, 33
United States should issue certificates of deposit of 32
European stock of, dwindling since 1848 ..... 79, 80
Stock of, in France 79
No large stocks of, anywhere 80, 81
Estimated consumption of, in the world 81, 82, 83
Estimated consumption of, in United States 82, 83
London prices of, in 1876 84
Causes of London silver-panic of 1876 ..... 84, 85
Speedy recovery from that panic 86
Importance of, in the monetary history of the United States 90, 91
Not demonetized in United States before 1873-'74 91
Coinage to 1846 of half-dollars 91
Opinion of British commission that there has been no overproduction to cause its depreciation 125

SPAIN:
Present monetary position of 67, 68

SUSPENSIONS OF SPECIE PAYMENTS:
In Russia, United States, and Italy 21
In Peru, Austria, France, and Argentine Confederation 22

UNITED STATES:
Silver product of 3
Consumption of silver in 82, 83
Monetary laws of 87-90
Trade relations of, with Europe 101, 102
Interest of, as a silver-producing country 108, 109
Trade relations of, with Europe and with non-commercial nations compared 109, 113

VIENNA MINT:
Coinage of silver for the East 77

VISSERING, PROFESSOR:
Reasons of Holland for preferring silver to gold 114

WAGES:
Effect of shrinking money upon 55-59

WEALTH:
Increase of, in the United States, Great Britain, and the world 23, 24

WESTMINSTER REVIEW:
Estimate of national debts 62
Its fears that the gold standard may result in the universal repudiation of debts 65

WOLOWSKI, M.:
Debtors ruined by gold standard 61

APPENDIX.

LIST OF PAPERS IN APPENDIX IN THIS VOLUME.

Papers prepared by Alexander Del Mar.

	Page.
Report on silver production in United States	1
World's production of gold and silver	61
Relative value of gold and silver	66
Population and specie in the Western World	69
Demonetization of silver in Germany	74
Payment of French indemnity of 1871	79
Movement of specie to India	81
Standard of the United States	90
Coinage of the United States	91
Money-standard for Great Britain	96
Monetary system of Austria-Hungary	102
China	105

Papers furnished by the foreign ministers of the United States.

Monetary system of Austria-Hungary	111
Belgium	122
Brazil	157
Buenos Ayres	159
China	541
Denmark	168
France	175
Germany	183
Great Britain	201
Hawaii	231
Holland	234
Italy	240
Japan	270
Mexico	383
Peru	417, 539
Portugal	426
Spain	483
Sweden and Norway	516
Switzerland	529
Turkey	530
Venezuela	535

SPECIAL REPORT

TO THE

UNITED STATES MONETARY COMMISSION ON THE RECENT AND PROSPECTIVE PRODUCTION OF SILVER IN THE UNITED STATES, PARTICULARLY FROM THE COMSTOCK LODE.

WASHINGTON, *February* 24, 1877.

To the United States Monetary Commission,
(Senator John P. Jones, Chairman:)

Having been deputed and commissioned by you to examine into the recent and prospective production of silver in the United States, the undersigned reports as follows:

Until the year 1861, the production of silver in the United States did not amount to more than a few thousand dollars per annum. In that year, the silver portions of the Comstock Lode croppings were first utilized, and the product of silver is estimated to have been about two million dollars.*

This rate of production continued to increase with the development of the Lode, until 1870, when, according to the Commissioner of Mining Statistics, the product reached 16 millions for the whole United States, of which about 5 millions were from the Comstock.

Table showing the production of silver in the United States from the establishment of the Government to and including the year 1870, *by calendar years, from estimates compiled by the United States Commissioner of Mining Statistics.*

Year.	Production.
Up to 1858 inclusive.	$1,000,000
1859	100,000
1860	150,000
1861	2,000,000
1862	4,500,000
1863	8,500,000
1864	11,000,000
1865	11,250,000
1866	10,000,000
1867	13,550,000
1868	12,000,000
1869	13,000,000
1870	16,000,000

Certified returns from the mining companies have been communicated to your commissioner; but owing to pressure of official duties and to the fact that no particular significance appears to be attached to the production of silver in the United States up to about the year 1871, they have only been collated for that year and the years since. This will

*Throughout this report, sums in silver are expressed in silver dollars of 371.25 Troy grains pure, and sums in gold, in gold dollars of 22.23 Troy grains pure.

serve to explain why, for the previous period, the estimates of the Commissioner of Mining Statistics have been adduced for the purposes of this review. For subsequent years, the more precise and authentic returns communicated to your commissioner are employed.

In 1871, the Belcher and Crown Point ore-body, or "bonanza," was opened, and the product of silver in all the United States rose to eighteen and a half million dollars, of which about one-third was from the Comstock, and one-fourth of the latter from the newly-opened ore-body.

In 1872, this ore-body yielded two-thirds of all the production from the Comstock, and, in 1873, when the product of the Lode had risen to eleven millions, it yielded seven-eighths of the whole.

The following table is from the certified returns made to your commissioner, of which full details will be found in the Appendix hereto:

Table showing the production of silver in the United States during the calendar years 1871 1872, *and* 1873, *from certified returns of the mining companies for the United States Mone, tary Commission.*

Year.	Production of silver in the United States.	Of which, silver from the Comstock lode.
1871	$18,100,000	$6,200,000
1872	18,600,000	6,600,000
1873	25,100,000	11,000,000

In 1873, while the Belcher and Crown Point bonanza was still yielding a large annual product of gold and silver, another rich body of ore was discovered. This was in the Consolidated Virginia mine, since divided into the Consolidated Virginia and California mines.

Up to January 1, 1877, these mines had produced $52,693,709, as follows:

Year.	Consolidated Virginia mine.	California mine.
1873	$645,582	Nothing.
1874	4,981,494	Nothing.
1875	16,717,395	$303,069
1876	16,657,649	13,188,539
Total	39,002,110	13,491,599
Add Consolidated Virginia		39,002,110
Grand total		52,693,709

Of which amount $29,263,545 were in silver, and $23,430,164 in gold Annual average production of both metals $13,000,000. Maximum month, April, 1876, when the production of both metals, from both mines, was $3,666,522.

The amount of ore taken out of this ore-body has been about 537,200 tons, yielding an average of about $98 per ton. At the rate of 13 cubic feet to the ton, the mass occupied a space in the mines of 6,983,600 cubic feet, or a little more than equal to a cube measuring 190 feet. Of course the ore-body did not exist in a cubical form. It commenced on the 1,200-foot level in the Consolidated Virginia, and on the 1,300-foot level in the California, broadening as it descended, until it reached its greatest breadth, it is supposed, on the 1,500-foot level, when it began to narrow again. The ore-body was not homogeneous, but was richer in

some places and poorer in others, whilst bodies of non-paying material were interspersed throughout the mass. Nevertheless, the solid contents of the ore taken out amounted to a cube of 190 feet, and this is almost equal to the bulk of the building occupied by the Patent Office, at Washington.

PROBABLE FUTURE PRODUCTION OF THE BIG BONANZA.

With regard to the probable future production of the ore-body in the Consolidated Virginia and California mines, your commissioner personally examined it in December last, and the following observations are from his notes on the subject:

All the working levels, breasts, and stopes were visited, and the rock and ore in each of them examined.

Below the 1,500-foot level the ore-body seemed to lie considerably farther from the country-rock than above.

The ore-body was less homogeneous, and the richer portions were fewer and further apart than they had been found above.

The northern and southern extension of the ore-body appeared to be less below than above.

The ore-body commenced on the 1,200-foot level, grew richer as it approached the 1,500-foot level, and apparently diminishes both in bulk and quality beneath that level.

RESEMBLANCE OF THIS ORE-BODY TO THOSE PREVIOUSLY WORKED OUT ON THE COMSTOCK LODE.

The ore-bodies are usually of somewhat lenticular form, and interspersed in the non-paying metalliferous quartz, which rests against and covers the east side of Mount Davidson like a thick skirt. They lie near the granite body of the mountain, and incline in the same direction. The shafts are usually made vertical until they encounter the granite, when they are continued by inclines running parallel with the side of the mountain. The prospecting is carried on by means of horizontal tunnels, or "levels." Owing to their shape, their position in relation to the granite, and the lateral manner of approaching them from the shafts, the ore-bodies indicate a narrowing whenever their western boundary is found further removed from the granite at a lower level than it was found at a higher one; and this appears to be the case with the "Big Bonanza."

The shape, position, and method of approach to the ore-bodies result in another peculiarity, common to the mines of the Comstock; when the ore-bodies are come upon, or when they give out, it occurs suddenly. There is little warning, either of the opening or close of a rich deposit. The first and last levels which lay bare the ore-body are both through wide sections of it, because a horizontal level cuts the lentil-shaped and eastwardly-inclined body on a plane diagonal to both its major and minor axes.

The general character of these ore-bodies is very correctly given in the reports of the Mining Commissioner for 1868 and 1869:

One very prominent feature in the Comstock is the occurrence of alternate metalliferous and unproductive courses or bodies of ore imbedded in the matrix. The unproductive masses constitute by far the larger portion of the whole bulk of the vein. The productive masses (ore-chambers, chimneys, zones, bodies, bonanzas, or what not) are irregular in shape, with a general tendency to a lenticular form, giving a cresent in

cross-section, something like a concavo-convex lens. They lie obliquely between the walls, generally originating near the foot-wall and terminating somewhere in the vicinity of the hanging wall.

PROBABLE FUTURE PRODUCTION OF THE COMSTOCK LODE GENERALLY.

While from the foregoing facts and considerations the product of the ore-body in the Consolidated Virginia and California mines will probably continue to diminish from the maximum monthly rate attained in April, 1876, it is still a very rich body of ore, and its product, together with that of the rest of the Comstock Lode, including the tailings from this and other ore-bodies now being developed or worked out in other mines, may contribute to make up a large output of silver. It must not be forgotten, however, that the entire Lode, or that portion of the skirt of Mount Davidson, about three miles in length, believed to contain any paying ore at all, has been explored and worked out to the depth of about 1,800 feet, and at several points over 2,000 feet, and that above these depths there is believed to be no other ore-body in it, except the one now being worked out in the Consolidated Virginia and California mines; the current product of the other mines on the Lode coming from the fringes, stringers, and scrapings of worked-out ore-bodies.

The enormous depth which the explorations have attained; the scattered position of the ore-bodies thus far discovered and exhausted; the great uncertainty of ever finding another body; the intense heat of the mines; the increasing flow of water, which in many places gushes from the interior rock at a scalding temperature; the difficulties of ventilation; and many other obstacles that grow more formidable as greater depths are reached, forbid any reasonable expectation that this Lode can ever again furnish the world with so important a proportion of its annual supplies of the precious metals as it contributed in 1876.

As to any stimulus being afforded by the Sutro Tunnel to stay this decline of production, it need only be remarked that, while the tunnel has been slowly making its way through three and a half miles of rock, the entire Comstock Lode has been honey-combed and ransacked to the depth of several hundred feet below the point where the Tunnel is projected to tap it.

It is therefore evident that the Tunnel cannot lay bare any new ore-bodies in the Lode. Should any be discovered below the present workings, the Tunnel could not help to get the ore out any more speedily than it could be got out by the shafts; for if a new ore-body were discovered within the next five years a shaft to reach it would hardly need to be more than half a mile deep, whilst the way out by the Tunnel would not be less than four miles long, to say nothing of the hoist of several hundred feet to the level of the projected opening of the Tunnel in the Savage Mine.

PROBABLE FUTURE PRODUCTION OF NEVADA.

The production of the mines of Nevada outside of the Comstock will probably depend in future, as it appears to have depended in the past, upon the productiveness of that Lode. The prosecution of silver-mining involves so great an outlay of capital and labor, much of which has to be expended before any discoveries are made, while it yields upon the whole so moderate a profit, that it is ready to be abandoned upon the occasion of any continued discouragement, however slight. The rapid and profit-

able development of the Comstock Lode, whilst at first it promoted silver-mining in Nevada, afterward, and particularly of late, appeared rather to retard it by attracting investments from other districts to Virginia City.

The recent rise in gold or fall in silver has been the source of another discouragement. The Comstock mines yield, on the average, about as much gold as silver, which is not the case with any of the outside mines. The recent change of ratio has, therefore, tended to render the Comstock more attractive than other lodes, whose preponderant yield of silver has subjected their sales of bullion to a heavy discount in the current metallic money.

Should a decline take place in the yield of the Comstock, there would probably occur an increase of production elsewhere in Nevada; and although numerous small mines, with attractive croppings and little beneath them, may be abandoned, the larger and richer veins now being worked will doubtless continue to afford profitable returns for the capital invested in them, and contribute to make up a large and steady production of silver from the State.

PROBABLE FUTURE PRODUCTION OF SILVER THROUGHOUT THE UNITED STATES GENERALLY.

The silver product of the United States, outside of Nevada, has never been large, and whenever the principal body of silver-bearing ore in that State gives out, the entire silver production of the country must fall away to comparatively small figures.

In view of the possibility of such a decline, it would be quite safe to estimate the future silver production of the whole country at about $25,000,000 a year, were it not for the fact that at present it is impossible to foresee how the mining industry may be affected by legislation on the silver question in Europe and America, or by the flow of silver to Asia.

There is plenty of silver in the mountains of the west coast; enough to supply the world for centuries to come.* Nevertheless, what remains to be obtained must be mined at such increased cost and difficulty as to need favorable circumstances to encourage the progress of the work.

STATISTICS OF THE PAST PRODUCTION OF SILVER.

Turning from the question of future production to that of the past, it need only be stated in this place that, while much credit is due to those who have compiled the statistics of this production, the methods of investigation open to them were more or less defective. This subject is presented more fully in the Appendix to this report.

The certified returns made to your commissioner were confined to the State of Nevada, and cover a period of seventeen years, of which the six latest have been collated. The mines of Nevada, as before stated, embrace the bulk of the silver product of the United States. For the statistics of the product outside of Nevada, recourse was had to the most authentic sources of information, the particulars of which are set forth in foot-notes to the tables of details in the Appendix.

* Baron von Humboldt writes similarly of the Mexican silver mines: "The assertions so often made in consequence of unsuccessful speculations concerning the exhaustion of the Mexican mines, are disproved as well by the geological formation of the country, as by the most recent experience." (Fluctuations of Gold, Berlin, 1838, p. 17.)

The correctness of these returns can scarcely be gainsaid. They rest not only upon the certified statements of the officers of the mines to your commissioner, but are also supported by sworn returns made at previous periods and for other purposes to the Assessors of the State of Nevada, which returns tally with the former in every respect. Moreover, in the case of most of the principal mines, your commissioner examined the ledgers and account-sales books from which the returns of bullion were made, and he cannot conceive of any error in the latter, except such trifling one as he may have made in their collation, and he knows of none.

The annual production up to and including 1873 has been given already. The figures for the years following are now adduced:

Year.	Production of silver in the United States.	Of which, silver from the Comstock Lode.
1874	$25,400,000	$11,900,000
1875	30,200,000	14,500,000
1876	38,200,000	20,600,000

According to these returns, the production of silver in the United States during the past six years has averaged about $26,000,000 a year, and ranged from nineteen to thirty-eight millions, the last-mentioned figure representing the production of 1876.

The returns to your commissioner are compared in the following table with the estimates of other authorities:

Comparative table showing the production of silver in the United States during the calendar years 1871 to 1876, inclusive.

I. According to the San Francisco Journal of Commerce of January 12, 1876, and January 24, 1877.
II. According to Mr. H. R. Whitehill, in his report as State Mineralogist of Nevada, dated Carson City, 1875.
III. According to the San Francisco Commercial Herald of January 18, 1877.
IV. According to Mr. R. W. Raymond, as published in Hon. Abram S. Hewitt's address on Mining and Metallurgy before the American Institute of Mining Engineers, Philadelphia, June 20, 1876.
V. According to Mr. Albert Gansl's report to Messrs. N. M. Rothschild & Sons, London, as published in the appendix to the British Silver Commission Report.
VI. According to Mr. J. J. Valentine's amended circular of December 30, 1876.
VII. According to Mr. J. J. Valentine's amended estimates to the United States Monetary Commission, dated February 5, 1877. See Appendix J.
VIII. According to official returns made by the mining companies for the United States Monetary Commission between November, 1876, and February 24, 1877, the earlier returns being completed by subsequent ones to the close of the year 1876.

[Sums in thousands of dollars.]

Years.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
1871	24,246	23,000	25,000	22,000	20,250	20,286	19,280	18,111
1872	27,549	28,000	28,000	25,750	25,000	20,527	19,924	18,556
1873	a44,600	35,000	36,000	36,500	32,500	28,352	27,483	25,131
1874	b46,600	40,000	37,000	32,800	30,000	30,498	29,699	25,402
1875	c58,000	40,000	38,000	41,400	35,000	34,043	31,635	30,209
1876	48,000	.....	45,000	.....	50,000	41,506	39,292	38,184

NOTES.—*a* Lessened in issue of January 24, 1877, to $38,500,000. *b* Lessened in issue of January 24 1877, to $40,250,000. *c* Lessened in issue of January 24, 1877, to $46,500,000.

From this comparison it will be observed that the official returns are lower than any of the others. There is no doubt whatever that the production has always been, though unintentionally, magnified. Most of the estimates are based one way or another upon Mr. Valentine's figures, and these, as the accomplished author himself admits, were excessive, and came to be so, probably from the extreme difficulty of avoiding duplications in the accounts of express-carriage, whence they were derived.

Estimate No. I, from the San Francisco Journal of Commerce, is professedly based upon the statistics of exports and coinage and of the domestic consumption of the precious metals shown by the census. The fallaciousness of this last method of computation is sufficiently proved by the extract from the report of the Commissioner of Mining Statistics, to be found in Appendix K; and to what is therein set forth your commissioner would add that, the customhouse accounts often erroneously class doré bullion as silver.

In this connection it should be noticed that the proportion of silver in the Comstock ores has always been overrated. In some publications the ores are treated as being altogether argentiferous, and much of the exaggeration in the hitherto current tables of production is due to this source. Thus, Mr. Gansl, through whose hands during the years 1869 to 1873 there passed some 60 millions of Comstock bullion, finding that it averaged 65 per cent. in silver, inferred that the entire product of the Lode averaged the same, and more than this, that it has continued to average the same ever since. See his Evidence appended hereto.

As to what was the actual proportion of silver from the Comstock bullion in 1869 and 1870, your commissioner cannot say as yet, on account of the fact that the returns for those years, although in his possession, are not yet collated. But in 1871 the proportion was 60.8 per cent.; in 1872, 51.2 per cent.; and in 1873, 51 per cent.; so that for these years Mr. Gansl's inference will not apply. Since 1873 the average proportion of silver has not exceeded 51.4 per cent.

The following table shows the facts in detail:

Table showing the percentage of silver by value in the entire bullion-product of the Comstock Lode, as exhibited in the official returns for the United States Monetary Commission.

(*Sums of second and third columns in millions of dollars.*)

Years.	Silver product.	Gold product.	Percentage of silver to total.
	Silver dollars.	Gold dollars.	
1871	6.2	4.0	69.8
1872	6.6	6.3	51.2
1873	11.0	10.5	51.0
1874	11.9	12.4	49.0
1875	14.5	11.6	55.5
1876	20.5	18.0	*53.2 †50.0

*Silver valued at customary rate of 16 to 1. †Silver valued at average market-rate in gold for the year.

Erroneous estimates of the production of the precious metals in this country are not matters of merely remote interest. The statistics upon this subject have formed the basis of legislative projects and enactments which deeply affect the public welfare and of commercial transactions, which have much to do with the prosperity of our citizens. A notable instance of this sort will be found mentioned in the testimony of Mr. Robertson.

In conclusion, your commissioner desires to express his acknowledgments for valuable information and facilities to the presidents, secretaries, superintendents, and other officers of the various mining companies whose mines were visited or books inspected, and to Messrs. Gansl,

Valentine, and Robertson, who, in frankly submitting their statistical methods and results to his inspection and criticism, evinced a love for truth in preference to mere pride of opinion which cannot but enhance the value of such further labors as they may devote to this important subject.

ALEX. DEL MAR.

APPENDIX TO SPECIAL REPORT ON THE PRODUCTION OF SILVER IN THE UNITED STATES.

WASHINGTON, *February* 24, 1877.

To the United States Monetary Commission:

In order to prepare the way for the inquiries which the undersigned was commissioned to prosecute at a later period, a telegram was addressed during the month of November last to the Hon. William Sharon, Senator of the United States from Nevada, then in San Francisco, requesting him to procure from the principal silver-mining companies an account of their production during the year 1876.

In response to this request, Mr. Sharon obtained statements of production from a number of the companies, and prepared the others for the further inquiries which were to be made of them.

On the 4th of December the undersigned left New York and proceeded directly to Virginia City, Nevada. After visiting and examining the principal producing-mines of the Comstock Lode, he went to San Francisco, where the books of the mining-companies of this and the other silver-producing districts of the Pacific slope are kept, and there obtained the returns which had been previously collected by Senator Sharon, and made such further investigations of the accounts of the mining-companies as seemed necessary for the more complete accomplishment of his mission.

In addition to this, he took the testimony of such gentlemen as had lately prosecuted inquiries in regard to the production of silver in the United States, with the view of determining the relative worth of the methods they had pursued and of comparing results. The testimony of these gentlemen, Messrs. Robertson, Valentine, and Gansl, is appended herewith, marked L, M, and N.

The undersigned left San Francisco on the 8th of January and reached Washington on the 16th, having been absent altogether forty-three days. Before giving the statistical results of his mission it is deemed best to briefly review the various methods hitherto employed to ascertain the bullion product of the country.

THE EXPORT AND CONSUMPTION METHOD.

This consisted in ascertaining the exports of the precious metals from the United States and adding to them the amounts coined at the mints and the amount used in the arts. The exports were obtained from the statistics of the custom-houses and the coinage from those of the mints. The amount consumed in the arts was not and is not known, and had to be conjectured. This was not the only uncertain quantity in the calculation. The export statistics are incomplete and indefinite. Commodities, including bullion, are sometimes shipped on board of vessels after they have taken out their official manifests, and the penalties provided by law for this irregularity are not enforced. (See Report on the Commerce and Navigation of the United States, in the Executive Documents, 1867.) The custom-house accounts of the exports to Canada and other adjacent foreign territory are grossly imperfect. (*Ibid.*) Even

were they complete, they would be indefinite. Foreign bullion exported is not always distinguished from American bullion, and doré bars, consisting in value of about one-half silver and one-half gold, are often classed as silver.

This method has still another disadvantage; owing to the tardiness which attends the publication of the official account of exports, it cannot be employed until several months after the close of the period to which it relates.

As to the census figures of precious metals consumed in the arts, they have no value whatever.

THE EXPRESS METHOD.

This method has been employed for several years by Mr. Valentine, the superintendent of Wells, Fargo & Co.'s Express. As this express is the chief means employed by miners and mining companies west of Salt Lake for transporting the precious metals to market, it occurred to Mr. Valentine to estimate the bullion-product from its records. From this gentleman's evidence it will be seen that he considers it a reliable means of estimation. Mr. Robertson, on the contrary, believes that it has led to exaggeration. It appears to be open to several objections.

First, all of the precious metals produced west of the Missouri River are not transported by Wells, Fargo & Co.'s Express, neither are all of the precious metals which are produced west of the Salt Lake. This express enjoys a monopoly of the carriage of gold, silver, and doré bars west of Ogden, but a considerable and unascertainable quantity of gold in dust and nuggets is transported by other means, chiefly upon the persons of miners or their agents; whilst all ores and all of the pigs of lead, copper, or other base metals containing gold and silver, such as are produced in the Eureka, Tybo, and other districts in Nevada, are transported by railway as ordinary freight. The value of these ores and base-metal pigs is not usually known to the railway officials and cannot be definitely ascertained through them; neither, of course, can be the quantities of gold and silver they contain. In the absence of positive information on these points Mr. Valentine was obliged to use conjectures, and notwithstanding the belief of that gentleman to the contrary, the results of the present investigation show that duplication must occur in the express returns; for in spite of the fact that this year he availed himself as a means of corroboration of other methods of inquiry, the original account of the production of silver in Nevada during the year 1876, submitted by him to the Commission, proved to be excessive as compared with the returns of the mines.

See his Evidence, questions 66, 67, and 68.

Second, under the head of "Silver bullion by express" Mr. Valentine has included all of the doré bullion of the Comstock lode. This consists nearly one-half of gold. It was not in his power to separate it into gold and silver, because it was shipped through his express by lumped values. (See his Evidence.) The employment of the heading "Silver bullion by express" in his annual statement was unfortunate, and it can scarcely be doubted that its use has tended to somewhat confirm the exaggerated estimates of the production of silver set afloat by other persons. The general heading to his table was also incorrect. It purported to relate to the States and Territories, seeming to mean the States and Territories of the United States west of the Missouri River, whilst in point of fact it included a part of the production of British Columbia and of the west coast of Mexico.

Mr. Valentine states in his testimony that previous to December, 1876, he did not obtain statistics of the production from the mines, as a means of corroborating his estimates derived from the records of the express. Therefore, his estimates for all years previous to 1876 stand unsupported and uncorroborated by any such positive evidence as the returns to the Commission for those years afford.

Mr. Valentine stated that he had made estimates for the year 1862, for two years, unspecified, between 1862 and 1870, for the year 1870, and for the years 1871 to 1876, inclusive. Previous to 1870, the estimates were in one lump sum of gold and silver for the whole country west of the Missouri River. From 1870 to 1875, inclusive, they were by States and by conveyances. The estimate for 1876 is by States, conveyances, and metals. Guiding himself by the proportion of metals ascertained for 1876, Mr. Valentine this year went back and divided the totals of the years 1871 to 1875, inclusive, into gold and silver separately. In doing this, however, he has fallen into some error and overstated the product of silver. This he did by assuming that of the whole product of the State of Nevada in 1876, 35 per cent. was gold and 65 per cent. silver. He admitted this error in his testimony, but probably did not remember at the time to what extensive use he had put it and how far it vitiated his tables; for he had applied it to the assumed products of all the years from 1871 to 1875, inclusive.

THE BANK METHOD.

This method was pursued by and is set forth in the evidence of Mr. J. Barr Robertson. From this evidence it appears that three banking companies, all located in San Francisco, handle all the silver product of Nevada and California. Allowance being made for the additional small product of Utah and other less important districts, an approximately correct knowledge of the current product can be obtained. The bank method was first pursued in 1876.

It is due to Mr. Robertson to state that in private conversation he also suggested another method, viz:

THE ASSAYERS' METHOD.

All the precious metals produced in the United States, except such insignificant portions as are shipped in the form of ores to be treated abroad, are sent to private assayers, or to Government mints, for assay. Returns from these sources, altogether not over a dozen in number, would, in Mr. Robertson's estimation, correctly exhibit the production. In this view Mr. Valentine and other experienced persons concurred, and it was suggested by several gentlemen that the Government, through the passage of a law requiring all assayers to report the sum of their operations to the United States Treasury, might obtain reliable statistics of the product.

MR. GANSL'S METHOD.

This consists in partly employing all the other methods, including the assessors' method mentioned below. Whatever success it has attained in Mr. Gansl's hands is evidently due more to the ability and excellent judgment of that gentleman than to any merit of its own.

ASSESSORS' METHOD.

Under the laws of the State of Nevada, passed in 1864 and amended in 1865, 1867, and 1871, an annual tax of about 1 % ad valorem is levied

upon the net production of the mines yielding precious metals in that State. In order to ascertain the net production, the law requires that the gross production shall be set forth, and the returns under these provisions are made quarter-yearly.

It seems to be assumed by some that in making such returns the mining companies would endeavor to escape a portion of the taxation imposed upon them, by furnishing incomplete statements; but a careful comparison between the returns to the tax-assessors in 1871, 1872, 1873, 1874, 1875, and 1876, and the bullion accounts upon the books of the companies for those years, which were examined by the undersigned within the past few weeks, exhibits no such discrepancy. In every case the mining companies had made correct and complete returns to the assessors, and these returns must be regarded, therefore, with certain exceptions, as a correct account of their product.

The exceptions are as follows:

1. In regard to a few mines the net product alone seems to have been returned to the assessors in certain years. In this respect the assessors' returns are deficient.

2. It has been the practice in a few mines, after certain levels were worked out, to lease the mines to contractors, who paid for permission to glean such remains of ore as had not been deemed worthy of removal by the owners. The returns of these gleanings were made to the assessors by the contractors, and do not usually appear in the bullion accounts of the mines. In this respect the assessors' returns are more complete than the returns of production to this Commission.

It is to be borne in mind, with regard to the presumption of evasion, that the returns to the assessors are made four times a year; that the assessors receive a portion of the tax for the service of assessing and collecting it; that evasion or deficiency in the returns is punishable with heavy penalties imposed as taxes and made an immediate lien on the property; and that the mines are mostly stock concerns, and the market-value of the stock is liable to be affected by the sworn returns of production to the assessors.

BULLION-BOOK METHOD.

This is the method which was pursued by your Commissioner. It was suggested by the Chairman of the Commission, himself a practical miner, and familiar with the manner in which the mining companies keep their accounts. It consists in obtaining the product from the bullion-books of the mining companies. There were some difficulties in carrying it out within the time allotted, due: 1st. To the vast number of small companies producing silver; 2d. To the fact that all of the companies sum up their production on their books by the fiscal year, which differs in almost every case; and 3d. To the further fact that not until very recently, and in many cases not even yet, have the companies posted up their production by silver and gold separately.

But these difficulties were obviated or removed. All the large companies and the bulk of the smaller ones were obtained, so that little of the production escaped specific mention; the returns were obtained by months, thus rendering practicable their collation by calendar years; and the silver and gold were segregated with precision by referring to the assay certificates which formed the basis of the lump sums entered on the books of account. In this last connection a request was made of the companies which had not yet done so, to keep their bullion accounts hereafter in such a manner that the product of gold, silver,

and other metals will be shown separately, as they are on the assay certificates which accompany the bars when shipped from the mines.

Thus, the way has been paved for obtaining in future a complete and correct account of the silver production of the United States every year, for which it will only be necessary to make application to the companies. The assessors' returns will furnish corroborative evidence of the correctness of these accounts.

The returns of the production of silver in the years 1871 to 1876, are presented herewith in detail:

Comparative table showing the production of silver in the United States during the calendar years 1871–1876, *inclusive.*

1. According to the San Francisco Journal of Commerce, January 12, 1876, and January 24, 1877.
2. According to Mr. Whitehill, in his report of State Mineralogist of Nevada, Carson City, 1875.
3. According to the San Francisco Commercial Herald of January 18, 1877.
4. According to Mr. Raymond, as published in Hon. Abram S. Hewitt's address on mining and metallurgy, before the American Institute of Mining Engineers, Philadelphia, June 20, 1876.
5. According to Mr. Gansl's report to Messrs. N. M. Rothschild & Sons, London, as published in the appendix to the British Silver Commission report.
6. According to Mr. Valentine's amended circular of December 30, 1876.
7. According to Mr. Valentine's amended estimates to the Chairman of the United States Monetary Commission, dated February 5, 1877. (Appendix J.)
8. According to returns made by the mining companies, &c., for the United States Monetary Commission, between November, 1876, and February, 1877, the returns for 1876 completed to the close of the year.

	1	2	3	4	5	6	7	8
Year.	San Francisco Journal of Commerce.	Whitehill, mineralogist of Nevada.	San Francisco Commercial Herald.	Raymond, United States commissioner of mines.	Gansl's report to N. M. Rothschild & Sons.	Valentine's amended circular of December 30, 1876.	Valentine's amended estimates of February 5, 1877.	Returns of the mines to the United States monetary commission, 1876–1877.
1871	$24,246,000	$23,000,000	$25,000,000	$22,000,000	$20,250,000	$20,286,000	$19,286,000	$18,111,351
1872	27,548,811	28,000,000	28,000,000	25,750,000	25,000,000	20,527,500	19,924,429	18,536,577
1873	*a*44,690,000	35,000,000	36,000,000	36,500,000	32,500,000	23,352,100	27,483,302	25,131,460
1874	*b*46,600,000	40,000,000	37,000,000	32,800,000	30,000,000	30,498,000	29,699,122	25,402,382
1875	*c*58,000,000	40,000,000	38,000,000	41,400,000	35,000,000	34,043,910	31,635,239	30,209,986
1876	48,000,000	.....	45,000,000	.....	50,000,000	41,506,672	39,292,924	38,184,350

a Lessened in issue of January 24, 1877, to $38,500,000. *b* Lessened in issue of January 24, 1877, to $40,250,000. *c* Lessened in issue of January 24, 1877, to $46,500,000.

In respect of the other less essential details required by your letter of instructions, (see Appendix O,) the materials have been obtained and will be collated and submitted to the Commission at some future time.

ALEX. DEL MAR.

TABLES TO APPENDIX TO SPECIAL REPORT ON PRODUCTION OF SILVER IN THE UNITED STATES, COMPILED BY ALEX. DEL MAR FOR THE UNITED STATES MONETARY COMMISSION.

1871.

TABLE A.—*Showing the production of silver in the United States during the calendar year ended December* 31, 1871.

I. Production of gold and silver in the State of Nevada, from returns made by the mining companies for the United States Monetary Commission.
II. Production of silver in the rest of the United States, from estimates derived from various sources.
III. Total production of silver in the United States.

Name of mining company.	Production of gold. Gold dollars of 22.23 Troy grains pure.	Production of silver. Silver dollars of 371.25 Troy grains pure.
Belcher	649,263	549,872
Crown Point	884,303	1,073,502
Chollar-Potosi	1,022,172	1,533,259
Consolidated Imperial, (including the Imperial, Empire, Gold Hill, and Bacon)	24,178	41,047
Hale and Norcross	297,992	649,843
Kentuck	46,397	113,591
Overman	44,314	85,699
Savage	337,888	712,821
Segregated Belcher	36,167	35,000
Sierra Nevada	147,072	None.
Yellow Jacket (*a*)	472,986	1,103,633
Gould and Curry	14,695	32,320
Tailings, (estimated)	100,000	300,000
Total Comstock lode	4,077,427	6,230,587
Manhattan Company, Lander County	19,379	368,210
Northern Belle, Esmeralda County	None.	25,055
Eureka Consolidated, Eureka County	304,913	300,349
Richmond Consolidated, Eureka County	66,514	179,543
Raymond and Ely, Lincoln County	34,040	1,327,500
Meadow Valley, Lincoln County	42,613	1,661,915
Alps, Lincoln County	40	1,558
American Flag, Lincoln County	774	30,966
El Dorado South, Nye County	.....	100,189
Eberhardt and Aurora, White Pine County	.....	542,385
Phenix, Eureka County (*b*)	11,878	59,400
Buttercup, Lander County (*b*)	83,463	125,195
Roslin (*b*)	56,250	112,500
Ward Beecher (*b*)	55,943	111,887
Mineral Hill, Elko County (*b*)	167,733	323,201
Arizona, Buena Vista district, Humboldt County	.....	330,808
Pioche, Lincoln County	4,619	180,170
Other mines and tailings in Nevada (*c*)	696,848	2,090,843
Total rest of Nevada	1,485,007	7,880,764
I. Production of gold and silver in Nevada	5,562,434	14,111,351
II. Production of silver in the rest of the United States (*d*)	.....	4,000,000
III. Total production of silver in the United States	.....	18,111,351

NOTES.

(*a*) The Yellow-Jacket return is for the fiscal year ended June 30, 1871. After this table was made up the return for the calendar year ended December 31, 1871, was received. Amount of gold and silver $1,542,608; proportion of gold and silver same as Kentuck.

(*b*) While the total amount of bullion returned as produced by the Phenix, Buttercup, Roslin, Ward Beecher, and Mineral Hill mines is doubtless correct, the proportions of gold and silver may not be. The proportion of gold seems too high. However, as the total amounts produced by these mines are comparatively small, it has not been thought worth while to make any further examination of the subject for the present.

(*c*) For details see assessors' returns, published in report of State mineralogist.

(*d*) According to Her Britannic Majesty's consul, Booker, (British Silver Com. Rep., App. 64,) the entire production of silver in the United States, in 1871, outside of Nevada, was only £200,000, or $1,000,000; but Mr. Booker is clearly wrong. Utah, Idaho, and Montana averaged nearly a million each, and Colorado produced nearly two millions in silver. (See reports of Commissioner of Mining Statistics.)

1872.

TABLE B.—*Showing the production of silver in the United States during the calendar year ended December* 31, 1872.

I. Production of gold and silver in the State of Nevada from returns made by the mining companies for the United States Monetary Commission.
II. Production of silver in the rest of the United States, from estimates derived from various sources.
III. Total production of silver in the United States.

Name of mining company.	Production of gold.	Production of silver.
	Gold dollars of 22.23 troy grains pure.	Silver dollars of 371.25 troy grains pure.
Savage	248,826	548,186
Belcher	3,092,482	1,702,177
Crown Point	1,943,681	2,626,825
Chollar-Potosi	405,195	537,125
Sierra Nevada	127,428	None.
Hale and Norcross	190,300	427,220
Kentuck	41,833	97,610
Yellow Jacket (*a*)	160,200	373,800
Tailings, (*estimated*)	100,000	300,000
Total Comstock lode	6,310,035	6,612,943
Eureka Consolidated	500,719	493,463
Meadow Valley (*b*)	32,588	1,270,949
Pioche, Lincoln County (*b*)	5,810	226,607
Raymond and Ely (*b*)	92,383	3,601,385
Phenix (*b*)	86,230	86,230
Other mines and tailings in Nevada (*c*)	1,425,000	4,275,000
Total rest of Nevada	2,142,730	9,953,634
I. Production of gold and silver in Nevada (*d*)	8,452,765	16,566,577
II. Production of silver in the rest of the United States (*e*)	.....	2,000,000
III. Total production of silver in the United States	.....	18,566,577

NOTES.

(*a*) Yellow Jacket returned for fiscal year ended June 30, 1872. After this table was made up the return for the calendar year ended December 31, 1872, was received. Amount of gold and silver, $191,574; proportion of gold and silver, same as Kentuck.

(*b*) The proportions of gold and silver were estimated for the Meadow Valley, Pioche, and Raymond and Ely at 2⅜ per cent. gold and 97½ per cent. silver, and for the Phenix mine at 50 per cent. each. The proportion of gold in the Phenix may possibly be reckoned too high.

(*c*) The details tally so closely with those published in the State mineralogist's report, as returns to assessors, that it has not been deemed necessary to reproduce them here. They occupy several pages of print.

(*d*) This agrees closely with the returns to the assessors, which were $24,722,250 for gold and silver together.

(*e*) Report of Commissioner of Mining Statistics, 1872.

1873.

TABLE C.—*Showing the production of silver in the United States during the calendar year ended December* 31, 1873.

I. Production of gold and silver in the State of Nevada from returns made by the mining companies for the United States Monetary Commission.
II. Production of silver in the rest of the United States from estimates derived from various sources.
III. Total production of silver in the United States.

Name of mining company.	Production of gold.	Production of silver.
	Gold dollars of 22.23 troy grains pure.	Silver dollars of 371.25 troy grains pure.
Savage	26,735	65,265
Consolidated Virginia	314,289	331,293
Belcher	5,748,947	5,030,533
Crown Point	3,675,890	4,640,920
Chollar-Potosi	208,652	340,432
Sierra Nevada	133,935	None.
Hale and Norcross	195,513	398,377
Kentuck (*a*)	10,486	25,672
Consolidated Imperial, (including Imperial, Empire, Gold Hill, and Bacon) (*b*)	5,659	7,888
Yellow Jacket (*c*)	17,000	32,000
Justice	22,650	30,643
Gould and Curry, (no production) (*d*)	.....	.....
Tailings (*e*)	134,000	134,000
Total Comstock lode	10,493,756	11,037,029
Eureka Consolidated, Eureka County (*f*)	504,708	497,394
Manhattan, Lander County (*g*)	21,400	466,600
Northern Belle, Esmeralda County	None.	95,000
Meadow Valley, Lincoln County	18,450	719,550
Raymond and Ely	56,975	2,222,025
Other mines and tailings in Nevada (*h*)	2,076,936	4,153,871
Total rest of Nevada	2,678,469	8,094,440
I. Production of gold and silver in Nevada	13,172,225	19,131,469
II. Production of silver in the rest of the United States (*i*)	.....	6,000,000
III. Total production of silver in the United States	.....	25,131,469

NOTES.

(*a*) The Kentuck returned nothing to the assessors for the year 1873.
(*b*) The Empire, afterward included in the Consolidated Imperial, returned $142,309 to the assessors and only $5,204 to the commission for the year 1873.
(*c*) Yellow Jacket return is for the fiscal year ended June 30, 1873. After this table was made up its return for the calendar year ended December 31, 1873, was received. Amount of gold and silver, $40,130. Proportions same as Kentuck.
(*d*) The Gould and Curry returned for 1873 $35,217 to the assessors and no production to the commission.
(*e*) Assessors' returns.
(*f*) Also lead to the value of about $460,821.
(*g*) In the Manhattan Company's printed account (Min. Rep. 1874, p. 192) the total production for 1873 is stated at $661,692.
(*h*) The Ruby, of Eureka County, reported its production at about $256,495, of which 74 per cent. was silver and 26 per cent. gold. The K. K. of same county produced over 7,000 tons of ores crushed at Ruby Mills, with a reported value of $169,333, of which the same proportions were of gold and silver, respectively. These ores were sold by the K. K. to the Ruby for about $90,000. In addition to these the K. K. produced about 9,500 tons ores, of an estimated value of about $393,000. The Rye Patch, of Humboldt County, produced in 1873 $109,780, gold and silver.
(*i*) Chiefly in Utah, which produced in 1873—gold, $52,426; silver, $3,725,775; lead, $938,365; and copper, $97,135. (Min. Rep. 1874, pp. 257, 258.)

1874.

TABLE D.—*Showing the production of silver in the United States during the calendar year ended December 31, 1874.*

I. Production of gold and silver in the State of Nevada, from returns made by the mining companies for the United States Monetary Commission.
II. Production of silver in the rest of the United States, from estimates derived from various sources.
III. Total production of silver in the United States.

Name of mining company.	Production of gold.	Production of silver.
	Gold dollars of 22.23 troy grains pure.	Silver dollars of 371.25 troy grains pure.
Consolidated Virginia	2, 063, 438	2, 918, 046
Belcher	5, 702, 364	3, 447, 517
Ophir	197, 845	261, 899
Crown Point	3, 153, 738	3, 591, 781
Justice	5, 896	7, 976
Chollar-Potosi	171, 952	349, 115
Consolidated Imperial, (inc. Imperial, Empire, Gold Hill, and Bacon) *about* (*a*)	100, 100	100, 000
Hale and Norcross	93, 835	204, 666
Sierra Nevada	90, 657	None.
Other Comstock lode, not specified, (*b*) and tailings, altogether *about* (*c*)	1, 000, 000	1, 000, 000
Total Comstock lode, Storey County, Nevada	12, 579, 825	11, 881, 000
Eureka Consolidated	450, 202	443, 677
Northern Belle	None.	14, 585
Richmond Consolidated	400, 000	863, 120
Other mines in Nevada (*d*)	800, 000	2, 200, 000
Total rest of Nevada	1, 650, 202	3, 521, 382
I. Production of gold and silver in Nevada	14, 230, 027	15, 402, 382
II. Production of silver in the rest of the United States (*e*)	.....	10, 000, 000
III. Total production of silver in the United States	.....	25, 402, 382

NOTES.

(*a*) The returns to the commission from the companies included in the Consolidated Imperial show no production in 1874; but according to the returns to the assessors about $200,000 were derived from ores on contract, (permitted to be removed by a contractor, one C. C. Stevenson.)
(*b*) The Yellow Jacket made a return showing a production of a few thousand dollars this year; but as it was not set forth definitely or divided into gold and and silver, it was not included in the returns of mines by names.
(*c*) Details published in the assessors' returns.
(*d*) For details see assessors' returns, which tally with those rendered for the Commission.
(*e*) Estimated from the returns to the United States Mining Commissioner.

1875.

TABLE E.—*Showing the production of silver in the United States during the calendar year ended December* 31, 1875.

I. Production of gold and silver in the State of Nevada, from returns made by the mining companies for the United States Monetary Commission.
II. Production of silver in the rest of the United States, from estimates derived from various sources.
III. Total production of silver in the United States.

Name of mining company.	Production of gold. Gold dollars of 23.22 Troy grains pure.	Production of silver. Silver dollars of 371.25 Troy grains pure.
Consolidated Virginia	7,035,207	9,682,188
California, (first year of production)	250,000	253,060
Belcher	2,261,869	1,122,105
Ophir	811,096	999,998
Crown Point	1,150,928	1,945,447
Justice	18,178	24,591
Chollar-Potosi	101,239	196,552
Overman, (no production)	.....	.....
Consolidated Imperial, (this includes the Imperial, Empire, Gold Hill, and Bacon)	26,333	54,033
Hale & Norcross	35,548	65,951
Tailings	49,475	148,425
Total Comstock lode, Storey County, Nevada	11,739,873	14,492,350
Northern Belle, Esmeralda County	None.	843,672
Leopard, Elko County	22,090	346,678
Eureka Consolidated, Eureka County (*a*)	549,363	541,402
Richmond Consolidated, Eureka County (*b*)	458,333	916,667
Alps, Lincoln County, (from March 1 to December 3, 1875)	1,832	34,817
Tybo, Nye County, (estimated) (*c*)	25,000	245,000
Gila, Nye County	None.	290,000
Other mines in Nevada (*d*)	500,000	3,500,000
Total rest of Nevada (*e*)	2,256,618	6,717,636
I. Production of gold and silver in Nevada	13,996,491	21,209,986
II. Production of silver in the rest of the United States (*f*)	.....	9,000,000
III. Total production of silver in the United States	.....	30,209,986

NOTES.

(*a*) Value of lead produced by the Eureka Consolidated, in addition to the gold and silver shown above, $501,593.
(*b*) Value of lead produced by the Richmond Consolidated, in addition to the gold and silver shown above, estimated at $500,000.
(*c*) Value of lead produced by the Tybo, in addition to the gold and silver shown above, estimated at $30,000.
(*d*) Value of base metals produced in all other Nevada mines, in addition to the gold and silver shown above, estimated at $200,000.
(*e*) After this table was compiled, complete returns to the assessors for the calendar year 1875 were very obligingly forwarded in manuscript by Mr. H. R. Whiting, the State mineralogist of Nevada. These returns exhibit a total production of gold and silver in the State of Nevada amounting to $35,252,585.
(*f*) Estimate based on the statement that Utah produced one-fifth less in 1875 than in 1876, and on a comparison of fragmentary data relative to the principal silver-bearing mines in California and the Territories.

1876.

TABLE F.—*Showing the production of gold and silver from the Comstock Lode, Storey County, State of Nevada, for the calendar year ended December 31, 1876, compiled from returns made by the mining companies for the United States Monetary Commission.*

Name of mining company.	Production of gold.	Production of silver.
	Gold dollars of 23.22 Troy grains pure.	Silver dollars of 371.25 Troy grains pure.
Consolidated Virginia	7, 378, 145	9, 279, 504
California (*a*)	6, 389, 085	6, 799, 454
Belcher (*b*)	1, 842, 526	992, 364
Ophir	1, 115, 863	1, 243, 401
Crown Point	389, 089	511, 534
Pacific Mill and Mining Company (*c*)	220, 575	693, 459
Justice	357, 362	483, 490
Chollar Potosi	172 963	354, 442
Overman	21, 928	34, 062
Consolidated Imperial. (This includes the Imperial, Empire, Gold Hill, and Bacon)	74, 540	70, 463
Woodworth Sluice Company (*c*)	18, 770	80, 818
Various assay offices (*c*)	22, 060	27, 087
Sierra Nevada, nothing since 1874	.....	.....
Savage, nothing since 1873	.....	.....
Hale & Norcross, nothing since December, 1875	.....	.....
Kentuck, mine flooded, nothing since 1873	.....	.....
Confidence, nothing since October 31, 1869	.....	.....
Gould & Curry, nothing since October, 1871	.....	.....
Yellow Jacket, nothing since 1873, except some trifling proceeds of ores sold in 1874, 1875, and 1876, ($11,668 in 1876)	.....	.....
All others, nothing (*d*)	.....	.....
Total	18, 002, 906	20, 570, 078

NOTES.

(*a*) The return of the California mine for 1876 to the assessors is $13,400,841.

(*b*) After this table was closed the Belcher Company made a corrected return, dated January 26, 1877, showing a total production in 1876, of $1,829,200 gold, and $990,860 silver; or $14,830 less than as shown in this table.

(*c*) A return to Wells, Fargo & Co., from C. C. Pendergast, agent at Virginia City, kindly furnished by Mr. Valentine, gives over $1,000,000 from tailings, whilst the assessor's returns only cover $233,000.

(*d*) The Lady Bryan produced in 1876 $3,940.

1876.

TABLE G.—*Showing the production of gold and silver in the State of Nevada, from all other sources except the Comstock lode, for the calendar year ended December 31, 1876, compiled from returns made by the mining companies for the United States Monetary Commission.*

["P," mines whose ores, as treated, yield only precious metals. "B," mines whose ores, as treated, yield base metals. (*a*)]

Name of mining company and district.		Production of gold.	Production of silver.
		Gold dollars of 22.23 Troy grains pure.	Silver dollars of 371.25 Troy grains pure.
AUSTIN DISTRICT, LANDER COUNTY. (*b*)			
Manhattan Company (*c*)	P.	62,500	1,187,500
BELLEVILLE OR COLUMBUS DISTRICT, ESMERALDA COUNTY.			
Northern Belle	P.	None	1,515,585
General Thomas	P.		109,204
CORNUCOPIA DISTRICT, ELKO COUNTY.			
Leopard (*d*)	P.	21,928	458,920
Panther	P.	132	2,068
EUREKA DISTRICT, EUREKA COUNTY.			
Eureka Consolidated (*e*)	B.	207,160	204,158
Richmond Consolidated (*f*)	B.	453,600	1,166,400
K. K.	B.	45,000	110,000
PIOCHE OR ELY DISTRICT, LINCOLN COUNTY.			
Raymond and Ely (*g*)	P.	14,309	558,047
Meadow Valley	P.	847	33,050
Alps	P.	8,096	153,820
American Flag	P.	2,826	45,178
TYBO DISTRICT, NYE COUNTY.			
Tybo Consolidated (*h*)	B.	71,400	468,762
REVEILLE DISTRICT, NYE COUNTY.			
Gila		None	50,000
Other mines in Nevada (*i*)		450,000	1,400,000
Total		1,387,798	7,462,752

NOTES.

(*a*) The value of the base metals produced by the mines specified in this table, exclusive of the gold and silver produced, was, approximately, as follows: Eureka Consolidated, $189,146; Richmond Consolidated, $500,000; K. K., $50,000; Tybo Consolidated, $90,712.

(*b*) This district, together with the Pioche, was formerly known as the Reese River.

(*c*) The figures credited to the Manhattan Company comprise the production of a number of small ledges, of which the principal ones now being developed, are the Independence, Panamint, and Paxton. The ore contains gold, silver, and copper. Of the first two metals there is in value about 95 per cent. of silver and 5 per cent. in gold; the value of the copper is not taken into account. The bars, which are about 800 fine in silver, and contain all three metals, are shipped from Austin by express to New York, and thence to Europe.

(*d*) The Leopard mill also turned out during 1876 $11,906 in doré metal from the Grand Prize mine of Tuscarora district. This sum is included with the product of other mines in Nevada.

(*e*) Proportional values of metals in the Eureka Consolidated product obtained from an average of two shipments, one in October, 1875, and one in December, 1876. These showed gold, 3½ per cent.; silver, 34 per cent., and lead, 31½ per cent.

(*f*) The Richmond Consolidated is now running five furnaces, and smelting between 4,000 and 5,000 tons per month. It has had a desilverizing works "since January, 1875, which refined most of its base bullion, a small portion being sent East for refining." It also smelts base bullion for a number of small mines in the vicinity. Proportion of base metals, (viz, lead, $500,000, as per note *a*,) derived from returns of 1874. This shows that 30½ per cent. of the total production was lead.

(*g*) Proportion of gold to total bullion stated at 2 to 3 per cent., and averaged at 2½ per cent.

(*h*) Proportion of metals produced by the Tybo, derived from an actual shipment made in December, 1876, and stated to be a fair average of all.

(*i*) For details see assessors' returns, which are similar to those made for the Commission.

1876.

TABLE H.—*Showing the production of gold and silver in the State of Nevada for the calendar year ended December 31, 1876, from returns made by the mining companies for the United States Monetary Commission.*

Mining district.	Gold.	Silver.
	Gold dollars.	*Silver dollars.*
Comstock lode, as per Table F	18,692,906	20,570,078
All other districts in Nevada, as per Table G	1,337,798	7,462,752
Total production of gold and silver in Nevada (*a*)	19,340,704	28,032,830

NOTE.

(*a*) The assessors' returns for the first three quarters of 1876, are as follows: Lander County, $598,279 Lincoln County, $733,666; Eureka County, $1,555,651; Nye County, $451,353; White Pine County $435,756; Storey County, $29,573,498; Esmeralda County, $1,037,082; Lyon County, $2,263; Elko County $225,696; Humboldt County, $82,474; tailings, $537,469; total, $35,293,187. Add estimate for fourth quarter, $11,764,396; grand total for the year estimated at $47,057,583; which very nearly agrees with the above.

1876.

TABLE I.—*Showing the production of silver in the United States for the calendar year ended December 31, 1876, compiled from returns made by the mining companies of Nevada to the United States Monetary Commission, and from other sources for other States.*

State or Territory.	Silver.
	Silver dollars.
Nevada, as per Table H	28,032,830
Utah (*a*)	3,351,520
Colorado	3,000,000
California	1,800,000
Arizona	500,000
Montana	800,000
Idaho	300,000
New Mexico	400,000
Total silver product of the United States for 1876	38,184,350

NOTE.

(*a*) From the Virginia Enterprise, January 11, 1877, which gives the metal product of Utah for 1876 as follows: Silver, 1,946,915 ounces, which, at $1.29, would amount to $2,511,520; silver bricks, $840,000; total silver, $3,351,520. Gold, 8,820 ounces, equal to $182,309, and from placers, $100,000; total gold, $282,309. Copper, 157,539 pounds; and lead, 50,401,893 pounds. The figures for the other States are obtained from a comparison of information from various sources.

APPENDIX J.

SAN FRANCISCO, *February* 5, 1877.

Hon. JNO. P. JONES, *Washington:*

DEAR SIR: * * * * *

If you have scrutinized our annual statement for 1876, you have doubtless observed that (inadvertently) the amounts of silver from west coast of Mexico and gold from British Columbia were both carried into total products of United States, in estimates on right-hand page of statement, which increases the totals erroneously by just the amounts credited Mexico and British Columbia.

As of possible service to you we have made corrections (approxi-

mately) including 1870, so as to show product of United States only, according to the best light we could get on the subject:

Year.	Product as per Wells, Fargo & Co.'s statement, including amounts from British Columbia and Mexico.	Products, less amounts from British Columbia and Mexico.	Divided as follows—		
			Lead.	Silver.	Gold
1870	$54, 000, 000	$52, 150, 000	$1, 080, 000	$17, 320, 000	$33, 750, 000
1871	58, 284, 000	55, 784, 000	2, 100, 000	19, 286, 000	34, 398, 000
1872	62, 236, 959	60, 351, 824	2, 250, 000	19, 924, 429	38, 109, 395
1873	72, 258, 693	70, 139, 860	3, 450, 000	27, 483, 302	39, 206, 558
1874	74, 401, 045	71, 965, 610	3, 800, 000	29, 699, 122	38, 466, 488
1875	80, 889, 057	76, 703, 433	5, 100, 000	31, 635, 239	39, 968, 194
1876	90, 875, 173	87, 219, 859	5, 040, 000	39, 292, 924	42, 886, 935

Yours, truly,

JNO. J. VALENTINE.

APPENDIX K.

From the Report for 1870 *of the Commissioner of Mining Statistics west of the Rocky Mountains.*

THE BULLION PRODUCT.

"The difficulty of ascertaining the production of gold and silver in this country is peculiarly great, by reason of the lack of organized means and the extent of the field through which our mines are scattered, as well as the nature of the industry itself, and the motives which influence the minds of those engaged in it to withhold from publication the full and true account of its results.

When I entered upon my duties as commissioner of mining statistics I gave this subject careful attention. My predecessor had presented estimates of bullion production, involving confessedly a large excess over the amount actually accounted for by the statistics of either express shipments, exports and coinage, or the bullion tax. He had recommended the collection of accurate and comprehensive returns through resident agents in the mining States and Territories—a system which was not practicable then, and has not been practicable since, on account of the limited funds appropriated for the work. So, far, however, as circumstances would permit, I have pursued the policy of obtaining from experts in different regions estimates of such portions of the production as were not covered by detailed and accurate returns, using, moreover, my own judgment, based upon extensive annual journeys of observation, in the modification of such estimates as I had reason to believe were without sufficient foundation. The elements entering into conclusions of this character are: the reports of production from single leading mines; the express shipments of bullion; the rates charged by express companies; the number of miners, white and Chinese, and the respective wages paid; the number and capacity of stamps running; the cost of mining and reduction, &c. The aggregate product of bullion thus obtained is of course merely a rude estimate. It has never been put forward as anything else, and I do not feel called upon to defend its accuracy. * * * *

These results are obtained without reference to the statistics of coinage and export, and largely exceed the aggregate of those two items.

According to some writers, however, the total annual product of bullion may be closely approximated by merely adding together the coinage of domestic gold and silver at the Mint and its branches, (or the deposits for coinage less the amount returned to depositors in bars,) and the exports of bullion of native production. I do not agree with this view, and I shall give at some length my reasons for dissent. These may be classed under two general heads: first, the imperfection of the data afforded for an accurate calculation of either coinage or exportation; and second, the inadequacy of the method itself. I need scarcely add, that if I had not become sincerely convinced on these points, I should certainly have saved myself much independent labor and research, and adopted the comparatively very cheap and easy system of studying the mining industry and its results by means of mint and custom-house reports. * * * * * *

Combining these tables of coinage and exports, we obtain—

Table of coinage and export of domestic gold and silver for the calendar years 1867, 1868, 1869, *and* 1870.

Year.	Coinage.	Export.	Total.
1867	$24,126,023	$34,695,826	$58,821,849
1868	19,432,339	31,389,835	50,822,174
1869	19,464,346	26,430,299	45,894,645
1870	23,003,650	28,771,299	51,774,949

Whoever chooses to accept these totals as fairly representing the production of the country may do so; for my part, I cannot regard them as complete. I have already shown the impracticability of obtaining from the mint returns a correct account of the domestic gold and silver turned into coinage, (though a recent writer avers that this item is furnished by the reports of the Director of the Mint "with absolute accuracy!"); and it may be added that there is grave reason to doubt the figures given for exports. In addition to private information received on this point from the Statistical Bureau, and conclusions drawn from personal inquiry into the manner of making up these figures, I may refer to the annual report of the Director of the Bureau of Statistics, Hon. Alexander Del Mar, dated November, 1867, where it is shown that the law under which the statistics of export are obtained refers to vessels only, and therefore takes no account of overland exports.* In the year ending June 30, 1867, $6,211,752 in treasure was exported overland to Canada alone. Of course this was mostly coin, yet a part was undoubtedly in bars, and it must be remembered that this item (taken from Canadian tables and not found in our own) does not include any other of the then separate British Provinces; nor is there any record of the exports into Mexico, although the large amount of commerce carried on through the "free zone" must involve some movement of treasure.

Again, the Director says: "It will be observed that, although collectors of customs are forbidden to grant a clearance for any vessel bound to a foreign place unless full manifests of the cargo are previously furnished, there is no penalty in case a vessel obtains a clearance and departs without giving a full manifest. A comparison of our exports with the imports officially reported by the principal countries with which

* In this respect, as well as some others, the commissioner is inaccurate. It is true that the law referred only to vessels, but it *did* take account of a very large proportion of the overland movement. The trouble was that it did not take in the whole of it.—A. D.

we trade, and a detailed examination of the export manifests at some of our large ports, established the fact that this is not unfrequently the case."

The British commissioners of customs remark, in a report upon this subject: "Exporters often endeavor, and not unfrequently with success, to ship their goods without clearance, in order to avoid the knowledge of their transactions which might be obtained through the bill of entry office." This motive has acted with greater force during the last seven years in the case of gold and silver than in that of any other commodities. The speculation in these two articles has been intense, continuous, and full of rapid fluctuations beyond all previous precedents. There has been the strongest possible inducement to conceal the true amounts of specie and bullion exported, and the weakest possible means of preventing such concealment. Finally, stories of surreptitious shipments are current in Wall street.

On the other hand, it is equally desirable sometimes, for purposes of speculation, to overrate the exports of treasure; although it seems less easy of performance, except by actual false swearing. * * *

Having been defeated in the attempt to obtain other data for comparison, and deeming the above results a proof that the British statistics are even worse than our own, I am obliged to conclude that the information afforded from such sources is neither accurate nor susceptible of correction by analysis and comparison.

It is but fair to add that attempts have been made to secure more careful returns from collectors of ports.

* * * * * * *

Having said thus much as to the imperfection of the data afforded by the reports of the Mint and the custom-house for ascertaining the amounts of domestic coinage and exports of gold and silver, I will add a few words, setting forth my general objection to the theory that these amounts, if correctly ascertained, would give the aggregate annual product of the country. The article above quoted from the Alta California recognizes the fact that amounts of bullion *in transitu*, or in the hands of dealers at the end of the year, are not included in this method of calculating the product. But this is a small matter compared with the omission of sundry items, which are not made good, as is the one alluded to by subsequent reports.

In the first place no account is taken of the gold and silver exported in the form of ores and mattes. I have direct information of more than a million dollars in value thus exported during 1870. Yet the item appears neither in the merchandise nor in the treasure reports of the custom-house. Perhaps it is believed, to use the phrase of the Alta, that gold and silver shipped in ballast do not "affect the markets of the world." As my duty, however, does not concern the markets of the world, but the actual results of American industry, I think this item worthy of notice.

Another instance in point is the amount of gold dust annually lost by its use as currency. This practice has almost ceased, save in a few of our productive placer districts, where several million dollars are still annually passed from hand to hand in trade. I estimate the quantity produced and lost in this way during 1870 at $100,000.

Again, in several Western States and Territories there is a considerable local manufacture of jewelry from gold dust, without further preparation than that which the manufacturers give it. The small town of Helena, Montana, contains five establishments, some of which employ a considerable number of workmen, and all of which manufacture

jewelry from native gold alone. A large amount of gold is annually hoarded, moreover, in the form of specimens. In one or two instances, the superintendents of mines have adopted the practice of selling specimens; and the amounts realized from such sales indicate a larger consumption in this direction than most persons would imagine. It is safe to say that $400,000 annually are worked up by local jewelers or hoarded as specimens.

But a far more important matter than any of these is the annual consumption of gold and silver by the manufacturing jewelers, watch-case, gold-pen, and spectacle makers, dentists, and silver-platers of the country. Those who think they can obtain the aggregate product of the precious metals by adding domestic coinage and domestic bullion exports assume that all our gold and silver is either coined or exported, and that all the domestic gold and silver used in manufactures has been previously recorded under one of these heads. This very convenient assumption is totally untrue. Our manufacturing jewelers do not, as a rule, melt coin at all. They either buy mint bars, or they purchase gold prepared for their special uses, in bars, plate, wire, foil, &c., from parties who make a business of this part of the work.

These gold-preparing houses, of which there are several in the city of New York, take a large amount of fine bars from the Mint and assay-offices; but they also refine gold for themselves before alloying it for the manufacturers. Their deposits at the New York assay-office include foreign, worn, and mutilated coin, unparted bars, and gold dust. The quantity which they refine for themselves it is impossible for me to state. Perhaps the manufacturing blanks of the census, when published, will throw some light on this point. At the present stage of the work in the Census Bureau no information regarding it is available.

Estimates as to the amount of gold consumed by jewelers, &c., vary considerably. The lowest I have obtained from those engaged in the business is $9,000,000 annually; the highest is over $13,000,000."

APPENDIX L.

UNITED STATES MONETARY COMMISSION,
San Francisco, December 30, 1876.

Present, Hon. Alexander Del Mar, on behalf of the commission.

Examination of JAMES BARR ROBERTSON, of San Francisco.

By Mr. DEL MAR:

Question 1. Please state your occupation, and address.—Answer. Real estate, San Francisco.

Q. 2. How many years have you resided here?—A. About three.

Q. 3. Has your attention been called to the question of the production of the mines of gold and silver on the Pacific coast?—A. Yes.

Q. 4. Have you seen the various estimates of the production, which have appeared in the report of the Royal Commission on the Depreciation of Silver, 1876; the reports of the Commissioner of Mining Statistics of the United States; the reports of the Director of the Mint of the United States; and the reports of Mr. Valentine, the superintendent of Wells, Fargo & Co.'s Express?—A. Yes.

Q. 5. In your opinion have the various methods pursued by these investigators been calculated to lead to correct results?—A. I think not.

Q. 6. Do you believe that the estimates which they have made of the gold production of this coast are correct, or approximately correct?—A. My attention has not been particularly directed to the subject of gold.

Q. 7. I ask you the same question with regard to the silver production. Has your attention been directed to this?—A. Yes.

Q. 8. Please state if you consider the estimates that have been made by the various authorities quoted, correct.—A. I think they are all exaggerated.

Q. 9. Have you made any such estimate yourself, independently of their figures?—A. Yes.

Q. 10. Will you please state the method which you have pursued in making such an estimate?—A. I have received from the banks of this city the information as to the production of the respective mines for which they are agents.

Q. 11. Have all of the mines of this coast banking agents in this city?—A. I am confident that that is the case with regard to the mines of the Comstock lode, and also with regard to many others, but I am not positive that it includes all of the mines of the so-called Pacific States.

Q. 12. Have you consulted all of the banks which represent mines at the present time producing silver?—A. Yes; the banks in San Francisco representing the leading mines.

Q. 13. Are you confident, therefore, that in making these inquiries you have secured the bulk of all the silver returns of this coast?—A. I think so.

Q. 14. How much difference could there possibly be between your results and the total actual sum?—A. I think, probably, it might be two millions either way.

Q. 15. You think that two millions is the utmost possible margin of error?—A. Yes; two millions for this year. I estimate the total silver production of the United States for 1876 to be from $27,000,000 to $31,000,000, valued in gold dollars at the average price of silver during the year 1876, which I take to be 12 per cent. discount on the old silver dollar. This would be equal to from $30,750,000 to $35,250,000 in American silver dollars.

Q. 16. Please state what banks or agents you have applied to for these figures.—A. There are only three; the Nevada Bank of San Francisco, the Bank of California, and the Anglo-Californian Bank (Limited) represent all of the mines of Nevada and California—all of the important mines. And as to Utah and the other less important States, I get that from Wells, Fargo & Co.'s statement. As to Colorado, I take the estimates from Dr. Linderman's report.

Q. 17. Are these statements thus given to you by the Nevada Bank, the Bank of California, and the Anglo-Californian Bank based upon the movement of metal through their vaults, or are they the estimates of production from time to time which they have received from the mines that they represent?—A. It is their estimate of the current production of the mines, checked by their knowledge of the remittances of bullion which pass through their hands.

Q. 18. So that you believe that inquiries made at any time of these institutions would lead to an approximately correct knowledge of the entire production of silver in this country?—A. I think so; and I think it would be complete if the exact figures were obtained from the eastern banks handling the silver reduced at Omaha and in the Eastern States; these banks doubtless being very few in number.

Q. 19. Pursuing this method, have you made an estimate of the silver

production of the United States for any particular year previous to this year?—A. I have not pursued this method for any previous years; but I began to pursue it this year because I had observed that the silver estimated to have been produced had not made its appearance on the markets of the world. This view is derived partly from the evidence given by Sir Hector Hay before the Royal Commission of 1876, in his replies to questions Nos. 26 and 47 of that commission.

Q. 20. Have you made any examination of this fact on your own account, independently of the testimony of Sir Hector Hay; and, if so, with what results?—A. Yes, I have satisfied myself from an examination of the official account of the imports and exports of the United States that those do not account, by a large discrepancy, for as much silver as was estimated to have been produced by these various authorities.

Q. 21. The authorities alluded to in your last answer, I presume, are the Director of the Mint, the Commissioner of Mining Statistics, and Mr. Valentine?—A. Yes.

Q. 22. In examining the official accounts of the exports of bullion from the United States with reference to the correctness of these estimates, did you at the same time take into account the consumption of silver within the United States by coinage at the Mint and by use in the arts?—A. Yes.

Q. 23. Do your estimates of the amount of silver coined within this country and the amount consumed in the arts differ from those made by the Director of the Mint?—A. No.

Q. 24. Then the difference between your conclusions and his, in regard to the total production, depends, as I understand it, mainly upon the errors involved in the official accounts of the imports and exports?—A. Yes.

Q. 25. And this is corroborated by the absence of the alleged surplus of silver upon the markets of the world?—A. Yes.

Q. 26. Holding these facts in mind, is it your opinion, on the whole, that the estimates of production for the past four or five years have been exaggerated?—A. I think so, decidedly.

Q. 27. Do you attribute any portion of the remarkable divergence in the relative value of the precious metals which has occurred since 1873, to these exaggerated estimates of the production of silver in the United States?—A. I do.

Q. 28. What other principal causes, in your estimation, have contributed to occasion this divergence since 1873?—A. The German monetary legislation of 1873, the limitation of the coinage of silver in the States composing the Latin Monetary Union, and the falling off in the flow of silver into India.

Q. 29. Can you form any opinion as to what proportion of this divergence was occasioned by the exaggerated estimates of the American production of silver?—A. I cannot form any definite idea of the proportion; but I believe it to have been very considerable.

Q. 30. Do you believe that if the estimates of the production of silver in the United States had been correct and not exaggerated, that the divergence which has taken place in the relative value of the precious metals would have been materially less than it was?—A. I think it would have been materially less.

Q. 31. I understand you to say, then, that you have no doubt whatever that the extraordinary fall in silver, or rise in gold, which occurred during the earlier portion of 1876, was occasioned by exaggerated estimates of production of silver in the United States?—A. I consider the great fall which took place in the summer of 1876 to have been in

great measure due to the exaggerated reports of production in the United States; as silver, which was sold here last July at slightly under 45*d*., that is at 23 per cent. discount, has since risen so that only yesterday I know that a leading holder refused to sell at 3¾ discount, without any material change having occurred in any of the permanent circumstances, except the removal of the impression that enormous production was taking place in the United States.

Q. 32. In speaking of the exaggerated estimates of production by Dr. Linderman, Mr. Raymond, and Mr. Valentine, do you have reference to their estimates of past production, or do you refer also to their estimates of probable future production?—A. I refer to their estimates of past production; and to Dr. Linderman's of probable future production.

Q. 33. In effect, then, to what do I understand you to attribute the greater portion of the so-called fall in silver in the summer of 1876?—A. To the exaggerated estimates of Dr. Linderman of past and future production; because Dr. Linderman estimated that the future production of silver on the Comstock lode alone would amount to not less than $27,500,000 a year in silver, whereas the production of silver this year on that lode has fallen short of $18,000,000 valued in gold. And as to the future, the general impression is, that the yield from that lode will not increase, that is, so far as can be judged from present indications. In fact, the consolidated Virginia and California have lately fallen off considerably in their product, as compared with previous months of this year, though that may be due to temporary causes, and so has the yield of the other leading mines.

Q. 34. Is it your opinion, then, that the Comstock lode has passed the culminating point of its production?—A. It is, and this is confirmed by the opinions of the banks of this city.

Q. 35. Having now pursued this inquiry so as to partly show the effects which, in your judgment, have resulted from the exaggerated estimates that have been made of the American production of silver, I propose now to recur to the definite facts of that production, as ascertained by your method of inquiry. Have you prepared any estimate, or table of estimates, of the production of silver in the United States during the current calendar year? If so, will you please submit it to the consideration of the commission?—A. I have nothing further to add to the estimate already submitted.

Q. 36. I observe from these figures that you estimate the total production of silver in the United States for the calendar year 1876 at a mean of $33,000,000?—A. Yes.

Q. 37. In this connection, how much is a dollar?—A. A dollar consists of 371¼ troy grains of pure silver; that is the rate at which it is converted by the Mint and the various refining and assaying offices, and the rate at which the bars are all stamped. This is what is technically known as the old silver dollar. Although this dollar was demonetized by law in 1873, it is still employed at the Mint and elsewhere as the standard for the purpose of stamping silver bars.

Q. 38. As Dr. Linderman, in 1875, estimated the future annual yield of the Comstock lode alone at $27,500,000, and you have estimated it at about $19,500,000, silver, the difference between your estimate and his for this lode therefore amounts to about $8,000,000, silver?—A. My estimate is about $19,500,000 and his estimate is $27,500,000; the difference, therefore, is about $8,000,000, or over 40 per cent. I therefore regard Dr. Linderman's estimate to be excessive to the extent of about 40 per cent.

Q. 39. Is the superior correctness of your estimate due to any facts that

have come to light since Dr. Linderman's estimate was made?—A. No; my estimate was made as far back as last August.

Q. 40. What evidence can you offer to the commission that such an estimate, so approximately correct, was made at so early a date as last August?—A. A letter appeared in the London Times of August 29, 1876, which was dated San Francisco, August 9, and contained an estimate of $25,000,000 to $30,000,000, from the States and Territories west of the Missouri, showing that at even so early a date as that, the elements existed for such a calculation; and this is equivalent to an allowance of about $20,000,000 for Nevada, whereas Dr. Linderman's estimate was $27,500,000 for the Comstock alone.

Q. 41. As the American silver dollar and free coinage for silver were abolished by the acts of 1873, and silver money is no longer in circulation in the United States, except in the shape of subsidiary coins what injurious effect could Dr. Linderman's erroneous estimates of the production of silver in the United States have had upon the welfare of the country or the interests of its citizens?—A. It gave rise to sales of silver here at enormously depreciated prices, and led to commercial transactions from which the people of this country have greatly suffered.

Q. 42. You state this as a general fact; can you furnish to the commission any instances going to prove the correctness of your general observations on this subject?—A. I would give the following particulars of an actual transaction, the purchase having been made by the agent of a China bank in July, 1876, at the lowest point of the market, and the sale of the silver in Shanghai having taken place under exceptionally favorable circumstances, in consequence of the high rate of exchange on London, caused by the almost unprecedentedly small stock of silver in the hands of bankers in China: 400,000 ounces .998 fine silver, at 23 per cent. discount, or at $44\frac{9}{10}d.$ per British standard ounce, $397,413, gold; paid for by telegraphic transfer on London at $48\frac{3}{4}d.$ per dollar =£80,724 10*s.* Outturn in Shanghai, Canton taels weight, 331,120, sold at taels 111.40=Shanghai taels 368,867.68, invested in six months' bills on London at 5*s.* $9\frac{3}{4}d.$ per tael=£107,202 3*s.* 6*d.* About £2,000 have to be deducted for freight and insurance and for interest in London, leaving a balance of profit on the transaction of £24,478, or about 30 per cent.

I would observe that this transaction shows that the people of the United States lost a very considerable sum of money by this single transaction; and I have no doubt that innumerable instances of a similar character occurred at various rates of discount, though the above transaction took place at the very lowest point of the market.

Q. 43. I now propose to abandon this branch of the inquiry, and to revert to the causes which, in your estimation, contributed to occasion the divergence in the long-standing relation between silver and gold. What do you consider had been the quantitative commercial or market relation between silver and gold for a long period anterior to the year 1873?—A. About $15\frac{1}{2}$ to 1, in the markets of the world generally.

Q. 44. To what extent has this relation been changed since the year 1873?—A. It has fallen as low as $19\frac{3}{5}$ to 1; and only yesterday holders refused to sell at $16\frac{3}{5}$ to 1.

Q. 45. Has this divergence of relation been occasioned by a fall in silver or a rise in gold, or both?—A. By both, I think.

Q. 46. What are the evidences that it has been occasioned by a fall in silver?—A. Those to which I previously alluded—the exaggerated reports of American production; the monetary legislation of Germany;

the stoppage of free coinage of silver in the Latin Union, and the diminished flow of silver to India for several years anterior to 1876.

Q. 47. What are the evidences that it has been occasioned by a rise in gold?—A. There are four evidences: First, the annual production of gold throughout the world has fallen off from about $200,000,000 a year, twenty years ago, to less than $100,000,000 at the present time; second, Germany, by her monetary legislation of 1873, was obliged to go into the London market for the purchase of gold; third, there has been throughout the world generally a marked falling off in the gold prices of commodities; fourth, there has been no falling off in the silver prices of commodities throughout the world.

Q. 48. Can you furnish any evidence to the commission showing the general falling off in the gold prices of commodities throughout the world since the year 1873?—A. The falling off of gold prices throughout the world is proved by the tables of prices published in the London Economist of September 16 and October 28, 1876; and the steadiness of the prices of commodities in silver is proved by the evidence adduced in the treasury minute of the government of India, alluded to at length in the London Economist of October 28, 1876, and in the London Times of October 24, 1876; in the Pall Mall Gazette of October 7, 1876; in an article on the Indian wheat-export, in a letter in the London Times of September 6, 1876; and the Edinburgh Review for October, 1876, pp. 506, 507.

Q. 49. What proportion of the divergence which has occurred during the past three years in the long-standing relative value of gold and silver is due to the fall in silver, and what proportion to the rise in gold?—A I cannot answer this question definitely; but I believe it was due more largely to the rise in gold than to the fall in silver. I believe that the apparent fall in silver from 60 pence until it reached about 52½ pence was mostly due to the rise in gold; and that the subsequent fall from 52½ pence to 45 pence was due entirely to the panic in silver. In using this method of measurement, viz, the gold-pence price of the standard ounce of silver in London, I do so only in deference to the usual custom, without admitting that it is any more correct to value silver in gold than it would be to value gold in silver.

Q. 50. If I understand you correctly, among the various causes which have assisted to produce the late remarkable divergence in the long-standing relation between the precious metals, there is only one which is probably destined to be permanent, and that one is the falling off in the accustomed annual production of gold throughout the world? Am I correct?—A. Yes.

Q. 51. The other causes mentioned, to wit, the purchase of gold and sale of silver by the German government, the exaggerated estimates of the production of silver in the United States, and the diminished flow of silver to India, are, in your estimation, as I understand it, only temporary causes?—A. Yes.

Q. 52. If, then, there be only one permanent change of condition in the relative value of the precious metals, it would follow that in future we must expect to find the relation of gold to silver continually rising, and, by consequence, the relation of silver to gold continually falling?—A. Yes.

Q. 53. Should such prove to be the case, would you regard it as a misfortune or disadvantage to the world?—A. I would regard it as a misfortune, because it would unsettle all values and money relations.

Q. 54. And you deduce this threatened unsettlement of values in

moneyed relations from apprehension that the world's product of gold in relation to silver will continue to diminish?—A. I do.

Q. 55. May I take the liberty of inquiring what remedy for this future continued rise in the purchasing power of gold over silver and commodities may best be resorted to by commercial nations?—A. The adoption of a national standard of gold and silver, by virtue of which both metals are brought into use as money at a fixed relation to one another, which will thus tend to make values less fluctuating. This is known as the double or optional standard, and it should be accompanied by free coinage.

Q. 56. Do you believe this to be the best policy which can be pursued by the United States?—A. I do, most emphatically.

Q. 57. If it is the best policy for the United States, why isn't it also, by parity of reasoning, the best policy for England?—A. I think it is.

Q. 58. Do you believe that England has been suffering disadvantages from its rejection of the double standard since 1816?—A. I do.

Q. 59. Some of the former witnesses before this commission have given it as their opinion that the adoption and retention of the single gold standard in England has materially contributed to the commercial prosperity of that country. Is this also your opinion?—A. It is not.

Q. 60. Are there, in your estimation, other causes which have contributed to render England a commercially prosperous country?—A. Yes. I think its prosperity has been in spite of its single standard, so far as the standard has relation to that prosperity.

Q. 61. To what principal causes do you attribute the commercial prosperity of England?—A. Abundant natural resources in coal and iron; immense colonial possessions; the large number of its emigrants to the colonies; its supremacy in India, China, and the Eastern Archipelago; and its long-continued freedom of institutions and trade.

Q. 62. It has been stated by some former witnesses before this commission that England has become the banking center of the world chiefly through the influence of her adoption of the single gold standard for money. Do you agree with this view?—A. I do not.

Q. 63. To what do you attribute her supremacy in finance?—A. I attribute it partly to the unequaled extent of her commerce with all parts of the world, and to the fact that in any part of the world you can buy or sell bills of exchange on London, when bills on almost any other city would be comparatively unmarketable; and this causes the bulk of the foreign trade of each country, such as that of the United States in China and India, to be done by letters of credit issued by London bankers, who accept the bills drawn, which are in turn met at maturity by remittances to those bankers. I attribute this to the enormous accumulated wealth of the British Islands, which centers in London, giving it a preponderating influence in the monetary transactions of the world.

Q. 64. Is it your opinion, then, that, had England continued to employ the double standard of gold and silver which was formerly in vogue in that country, her commerce and finance would have been as far advanced as they are at the present time?—A. I think they would have been, and even farther advanced, because of the greater stability of prices. I think the additional stability of prices must always be an immense advantage. The fluctuations of prices produced by an unstable money standard are ruinous to the merchant. The merchant would not, with the double standard, have had to embark to the same extent in the speculation in exchanges.

Q. 65. Among the questions submitted to this commission by Congress is one with regard to the best means of providing for the resumption of

specie payments in the United States; may I ask you if you have paid any attention to this branch of the monetary subject?—A. Yes, I have paid a good deal of attention to it.

Q. 66. Without inviting you to discuss the various means by which such a resumption of specie payment may be accomplished, I desire to ask you what, in your opinion, is the smallest amount of specie with which such resumption can be effected through any of the means which have occurred to you?—A. I should expect that not less than three-quarters of the entire amount of legal-tender notes and national-bank notes would have to be provided in specie.

Q. 67. As the combined sum of legal-tender and national-bank notes is about $700,000,000, this would involve the necessity of accumulating $525,000,000 in specie; do I understand that to be your opinion?—A. Yes; not less than that amount; probably more.

Q. 68. What facts in financial history is this opinion based upon?—A. The resumption of specie payments in England in 1823, and the fact that the Bank of France, with an amount of specie more than equal to its outstanding notes, at the present time, does not deem it safe to attempt to resume specie payments. There are also, as some guide, the further important data of the relation of the bank-note circulation in the British Islands to the total coin of that country.

Q. 69. Do you know of any other country than England which ever suspended specie payments and afterwards resumed?—A. I do not.

Q. 70. If $525,000,000 were needed for the purpose of resuming specie payments in this country, whence could such a sum of specie be obtained?—A. I do not know whence it could be obtained.

Q. 71. Do you think it could be obtained at all, within any reasonable period of time?—A. This would depend upon the period of time during which such an undertaking was attempted to be accomplished.

Q. 72. Within what period of time do you consider it impossible?—A. That is a very difficult question to which to give any reply, as I know of no really analogous case. I should think, however, that no period short of ten years would suffice, even with the double standard.

Q. 73. Do you believe that the resumption of specie payments could be more easily effected in the two metals than in gold alone?—A. Certainly; it would diminish the difficulty one-half, if it could be done at all.

Q. 74. Do you believe that this operation would effect any injustice to any parties concerned, either in this country or elsewhere?—A. I think not.

J. BARR ROBERTSON.

Revision made January 3, 1877.

J. B. R.

APPENDIX M.

UNITED STATES MONETARY COMMISSION,
San Francisco, January 2, 1877.

Present, Hon. Alexander Del Mar, on behalf of the commission.

Examination of Mr. JOHN J. VALENTINE, general superintendent Wells, Fargo & Co.'s express.

Mr. DEL MAR. I am instructed by the United States Monetary Commission to make such inquiries of you, with your permission, as will

elicit the basis of facts and considerations upon which are founded your very excellent and useful tables of estimated production of precious metals in the United States, and, in accordance with that instruction, I will submit to you the following inquiries:

Question 1. How long has it been your custom or habit to prepare these tables?—Answer. At irregular intervals ever since 1862. The first one that I ever prepared was in 1862.

Q. 2. Did it relate to that year or to some previous year?—A. To that year.

Q. 3. Therefore your estimate for the year 1862 is the first one you ever made?—A. Yes, sir.

Q. 4. Have you since that time made any estimates for any year prior to 1862?—A. Never.

Q. 5. Are there any years omitted between 1862 and the year when you first regularly commenced to compile them annually?—A. Yes, sir.

Q. 6. I ask you particularly on this account: that there are many estimates current throughout the world in books of reference, &c., dating back a considerable number of years, which are ascribed to you; and I desire to distinguish those estimates which you yourself prepared from those which are erroneously ascribed to you.—A. I made up the statement in 1862 at the request of persons making inquiries concerning the production of Nevada, then exciting considerable interest. Between that and 1870, I believe, I made two estimates only, purely for my own satisfaction; and to arrive, first, at a knowledge of the gross amount that we (W. F. & Co.) were carrying, and second, just out of curiosity.

Q. 7. You don't happen to recollect at this moment what years those were?—A. No, sir; the first regular report was in 1870. I have looked for that everywhere, but I do not find a copy in existence. My recollection as to the amount in the report of 1870 is very distinct, that the total amount was $54,000,000 for that year.

Q. 8. That was gold and silver?—A. Yes, sir; I state $3,000,000 silver for 1862. I recollect distinctly what the amount was; it was $2,900,000 and odd. Nevada was the only Territory then producing silver. In 1870 my recollection is positive that $54,000,000 was the total product of gold and silver.

Q. 9. Therefore, in asking you with regard to these estimates, it is better to confine myself to the years 1871, '72, '73, '74, '75, and '76?—A. Yes, sir.

Q. 10. With reference to those years you have in the table now put in evidence, dated San Francisco, December 30, 1876, a statement showing the annual silver product, the annual gold product, the annual lead, &c., product, and the annual total product?—A. Yes, sir.

GENERAL SUPERINTENDENT'S OFFICE WELLS, FARGO & COMPANY,
San Francisco, December 30, 1876.

DEAR SIR: The following is a copy of our annual statement of precious metals produced in the States and Territories west of the Missouri River, including British Columbia and the west coast of Mexico, during 1876, which shows an aggregate yield of $90,875,173, being an excess of $9,986,136 over 1875, the greatest previous annual yield in the history of the country. Arizona, California, Colorado, and Nevada, increase; British Columbia, Mexico, Montana, Oregon, Utah, and Washington, decrease. It is possible the falling off in Montana is more apparent than real, as we have not credited so much base bullion and ores by $250,000 as were claimed for it. The notable increase is in Nevada, which produces more gold than any other State or Territory; and of gold and silver combined, five-ninths of the whole product of the United States. A large gold yield is often claimed for Arizona and New Mexico, but as $2,710,000, or an average of less than $100,000 per year, is the total amount deposited in United States mints since 1848, as from those Territories combined, we think such claims cannot be sub-

stantiated. The total yield west of the Missouri River for 1877 may equal that of 1876, but it does not now appear probable.

The lead product of Utah, Nevada, and California about equals that of Missouri, Illinois, and Iowa.

Statement of the amount of precious metals produced in the States and Territories west of the Missouri River during the year 1876.

States and Territories.	Gold dust and bullion by express.	Gold dust and bullion by other conveyances.	Silver bullion by express.	Ores and base bullion by freight.	Total.
California	$14,635,963	$1,463,596	$796,303	$1,719,940	$18,615,807
Nevada	220,603	22,080	44,725,802	4,312,079	49,280,764
Oregon	919,257	229,814	.....	.....	1,149,071
Washington	56,702	5,670	.....	.....	62,372
Idaho	1,182,222	236,444	220,695	35,000	1,674,361
Montana	1,956,553	195,655	274,824	350,000	2,777,033
Utah	47,795	4,779	781,263	4,373,682	5,207,519
Colorado	2,829,877	.....	2,796,661	1,364,109	6,990,647
New Mexico	76,392	.....	255,281	18,621	350,294
Arizona	103,538	.....	336,564	671,900	1,111,992
Mexico	51,880	.....	1,620,656	541,212	2,213,748
British Columbia	1,310,515	131,051	.....	.....	1,441,566
Total	23,391,487	2,289,089	51,808,054	13,366,543	90,875,173

The method and form of the foregoing is exactly similar to that of statements which we have compiled since 1870, wherein no attempt was made to show the amount of gold contained in silver or *doré* bullion, or the lead and copper in base bullion, but the violent fluctuations of silver as compared to gold during the present year, renders an analysis desirable, and we have spared no pains to arrive at a correct conclusion, and the results are as follows: In round figures, of $37,000,000 produced from the Comstock lode this year, $17,125,000, or quite 46 per cent, was gold; of the whole product of Nevada, 35 per cent. was gold, and of the total silver product, so-called, $18,647,925, or 31 per cent., was gold. The gross yield is constituted as follows: Gold, $44,328,501; silver, $41,506,672; lead and copper, $5,040,000 = $90,875,173.

Following the method indicated and the percentages arrived at, for 1871 to 1876, inclusive, for which years we have our own compilations to depend upon, the products separated are as follows:

Year.	Total product.	Lead, &c.	Silver.	Gold.
1871	$58,284,000	$2,100,000	$20,286,000	$35,898,000
1872	62,236,959	2,250,000	20,527,500	39,459,459
1873	72,256,693	3,450,000	28,352,100	40,456,593
1874	74,401,045	3,800,000	30,498,000	40,103,045
1875	80,889,057	5,100,000	34,043,910	41,745,147
1876	90,875,173	5,040,000	41,506,672	44,328,501

We hoped to segregate the gold, silver, &c., for the years from 1870 to 1861, inclusive, also, but no data is obtainable that will stand the test of so careful an analysis as the years 1871 to 1876, inclusive, have been subjected to; and we see no way of reconciling the discrepancy between $66,000,000 gold and silver published as the estimate of United States officials for 1870, and $56,184,000 shown here for 1871, which was a more productive year by at least $4,000,000 than 1870. We are confident that similar discrepancies or exaggerations as to the product of the United States exist in the estimates usually accepted for the years from 1870 to 1861, inclusive, and possibly all the way back to 1848.

Reasoning from what is known of our own country's product, as compared with estimates frequently put forth, we are inclined to believe that there is almost universal exaggeration as to the amount of gold and silver produced throughout the world.

As of possible interest, we give herewith the usually accepted estimates of the world's product of gold and silver in dollars, lowest and highest price for silver in

London, in pence, per standard ounce, and the amount exported in dollars from Southampton to India, China, &c., from 1849 to 1876, inclusive.

Since the demonetization of silver by Germany, $40,000,000 is supposed to have been the amount sold by that government, with a remaining surplus of possibly $80,000,000, upon the basis of 10 marks of token money—silver—as the average required per capita for 42,000,000 of people; but $50,000,000 of the $80,000,000 remaining may be required to meet the increase suggested in the Reichstag, of 5 marks, or from 10 to 15 marks per capita.

If the legal-tender and national-bank one-dollar notes should be retired, and silver substituted, $100,000,000, including all subsidiary coins, would not be excessive for the use of the United States.

The export to India, China, &c., is larger this year than any, save one, since the Sepoy rebellion and India railroad building era, (1855 to 1859, inclusive,) Southampton showing $47,500,000, and the United Kingdom combined, say, $70,000,000.

A comparison of the actual and probable demand with the actual and probable production does not appear to be a sufficient explanation for the extraordinary depreciation of silver during 1876.

JNO. J. VALENTINE,
General Superintendent.

Q. 11. Does that relate to the whole United States or only to a portion thereof?—A. It relates distinctly to all west of the Missouri River; and as embraced in that we name the Territories and States. In addition to the United States we include British Columbia and the west coast of Mexico.

Q. 12. The tables which you have compiled from 1871 to 1876, inclusive, therefore, do not comprise all of the United States, but only that portion of the States and Territories west of the Missouri River; and, moreover, they comprise British Columbia and the west coast of Mexico, as stated in the tables?—A. Yes, sir; the west coast of Mexico is incomplete, covering only La Paz, Guaymas, and Mazatlan.

Q. 13. Then, if I understand you correctly, the statement is neither a complete statement for the United States, nor does it confine itself exclusively to the United States?—A. No, sir.

Q. 14. Therefore, a statement which purported to show the production of the precious metals in the United States, and in all of the United States, and in no other country but the United States, would necessarily differ more or less from your statement?—A. Yes, sir.

Q. 15. Assuming both of them to be true and correct?—A. Yes, sir.

Q. 16. Is the method which you have adopted for the purpose of estimating the total product of the territory covered in the table for 1876, different from the method which you pursued for any of the preceding years or all of them?—A. No, sir;* there is a difference in it, but only so far as this: in separating what we have usually termed silver, from the proportion of gold and the proportion of lead, comprised in what we have usually classed as silver or base bullion.

Q. 17. The general method, therefore, is the same; but it is an improvement upon the method previously pursued in respect of the manner of ascertaining the proportion of the two precious metals contained in the bullion conveyed by your company?—A. Yes, sir.

Q. 18. Do I understand, then, that previous to 1876 the method pursued was the same in all of the years?—A. Yes, sir; *but less elaborate and minute in tests of accuracy.*†

Q. 19. And that the only difference in the method pursued is the difference between 1876 and all of the preceding ones?—A. Yes, sir; in the fact of the separation *and greater care in tests.*

* In a subsequent part of the testimony, Mr. Valentine stated that for 1876 he got the returns for the Comstock lode by mines, and that he had not done this for any previous years. See answer to questions ending with No. 50.

† Words in italics added by Mr. Valentine after his examination had been concluded and his testimony submitted to him for revision.

Q. 20. Now, then, suppose we confine the following inquiries to the years preceding the year 1876; and we will come to 1876 afterwards. Are the statements produced in your table of this year with regard to 1871, '72, '73, '74 and '75 the same statements with regard to these years as you published previously?—A. Yes, sir; copies.

Q. 21. They have not been altered at all?—A. No, sir; not revised or changed in any particular.

Q. 22. Will you please state in what manner the statements of those years were compiled; what process you took to ascertain the figures which you have set forth?—A. As for gold, the actual amount of gold-dust or gold amalgam shown to have been carried from producing points by our express. Next, the percentage of the same, or gold supposed to have been carried outside of the express, and that percentage we have usually fixed at ten, which has been agreed upon by gold-dust buyers, merchants, and others, trading at the various points from time to time, as probably covering the amount that was transmitted outside of the express. In some instances, to be particular, take such a place as Cañon City, Oregon; Florence and Elk City mines, in Idaho; and other points similarly remote; the express-rate is usually very high; and sometimes the express connection is only partial. For that reason, after consultation with traders and merchants engaged in business in the particular sections of which inquiry is made, I have determined that the percentage carried outside of the express was greater than ten, and in some instances 25. For instance, at Waldo, in Oregon, the whole amount goes by mail. We have thus to calculate with these people and as near as possible get the correct amount produced; and we add that, according to the best information that we possess, to the amount carried by mail from the State or States at large. That is comparatively an unimportant amount so far as the whole is concerned. That does not constitute a million dollars in the whole sum.

Q. 23. Does that conclude the statement with regard to the methods pursued to obtain the product of gold?—A. Yes, sir.

Q. 24. Now coming to silver?—A. With regard to silver I am confident that the whole product of silver, to all intents and purposes, independent of what we call base bullion, is transmitted by express.

Q. 25. That is, all of the pure silver?—A. I mean that all silver over 400 fine, or so-called silver bullion, goes through the express from every quarter.

Q. 26. And that, therefore, the express carriage is the correct indication of the production of that class of silver?—A. Yes, sir; the way-billing or the transmission of such bullion is not liable to duplication, for the reason that we have two points, Ogden on the east and San Francisco on the west, to which all of this bullion is shipped, to Ogden for New York, and to San Francisco for San Francisco or reshipment thence to New York, and it is not reway-billed at any intermediate point. There are no intermediate points for it to be re-accounted for. Shipment of bullion from such points as San Francisco or Sacramento, they being central, are not considered in our estimates of production. As a test of the accuracy of that, we take the different mining localities and get of the superintendents of the various mines statements of their production for a given number of months or a year, and compare it with the amounts that our books show to have been carried during the same period.*

Q. 27. And if there appears any remarkable discrepancy, you make inquiries so as to ascertain what the truth is?—A. Yes, sir.

* See note to question 16.

Q. 28. You will bear in mind that I am now asking you with regard to 1871 to 1875 inclusive, and not in regard to 1876.—A. Yes, sir.

Q. 29. Therefore, if the corroboration which you have just made mention of, has been referred to in your method pursued for the year 1876, and not for the previous years, I beg that you will state the fact now, so that we will be able to estimate the practical difference between the methods pursued previous to 1876 and the methods pursued this year.—A. The methods from 1871 to the present year inclusive are practically the same, *only less elaborate in tests.*

Q. 30. You have, in all of those years, obtained from mine-owners and superintendents estimates of the production of their mines?—A. No, sir; not regularly. At times, merely for the sake of testing, but not in the aggregate. That course this year has been more general than any preceding year. In almost every instance that we have applied this test, the two amounts approximated so closely that we generally assumed that it was true for the other years and for those points that had not been so specially investigated.

Q. 31. Have you found, in pursuing that method of corroborative testimony, in any instance at all, say during the year 1876, any discrepancy between your estimates by expressage and their statements of production?—A. No notable discrepancy. In this particular it would be well to say that frequently statements are put forth, as they would be deemed from reliable or well-posted persons in certain localities. My experience is that in the main such statements are not reliable.

Q. 32. But you do consider the statements made by superintendents of mines and mine-owners as reliable?—A. Yes, sir; we have never found them to be materially incorrect.

Q. 33. During what particular years previous to 1876 did you obtain the corroborating evidence of mine-owners and superintendents with regard to the production of silver, in order to compare it with the estimates which you made through the way-bills or other evidence afforded by express carriage?—A. I accepted as the basis of my estimate the published statements of mine-owners at different times; for instance, the Belcher and Crown Point, and others. I used their published statements at different times in 1872, '73, and '74, and compared those with our statements as they were published, showing their production; and in the instances that I recollect, taking the Comstock as the most important point, the variations were very slight and not notable.

Q. 34. Were the mine-owners and superintendents in the habit of publishing statements of their production in the public press over their signatures, or in any other authentic way?—A. The forms that I used were in pamphlet—obtained from the pamphlets, their annual reports.

Q. 35. The fiscal year of the various mines ends at various periods of the year?—A. Yes, sir.

Q. 36. One of the mines ends it on the 1st of March; another important mine on the 1st of May; another ends it on the 1st of October, and so on. Since your statement relates to the calendar year, that is the year beginning on the 1st of January and ending on the 31st of December, how could you obtain from such annual reports which end at other periods of the year the corroborative testimony of the production, when you compared it with your estimates of expressage which related to the calendar year?—A. By getting the difference from the secretaries for the remaining months. The fact that we carried all of this bullion—and it all passed through our hands—has at all times given us the utmost freedom in any inquiry relating to a matter of this kind with the secretaries of the mining companies. I never have found any

mining company to hesitate in the slightest degree giving us any information where it was accessible. They always furnished it to us. We never use the statistics of a particular mine for publication.

Q. 37. In regard to two important mines, to wit, Consolidated Virginia and Belcher, and perhaps some others, I found upon examining their books, which they permitted me to do within the last week, that they had not tabulated their production in past years by months, but had only tabulated it by the year. How could you then have obtained from them corroborative evidence to fill up the remaining portion of the broken years? If they do not possess the monthly statistics of past years now, how could they have given them to you then?—A. I am unable to answer that question. For the particular year 1876 my information as to both the Consolidated Virginia and Belcher mines is furnished by their superintendents at Virginia, upon my request, for the calendar year, of which statement I handed you a copy.

Statement of bullion produced and shipped from Virginia, Nev., from January 1 to December 31, 1876.

Name of company.	Gold value.	Silver value.	Total value.
Consolidated Virginia	$7,580,514 36	$9,569,752 37	$17,150,266 73
California	5,848,486 50	6,250,258 83	12,098,745 33
Ophir	1,103,135 43	1,230,139 27	2,333,274 72
Chollar-Potosi	149,586 81	318,157 96	467,744 77
Crown Point	392,732 77	516,311 25	909,044 00
Justice	169,990 55	305,011 69	475,002 24
Belcher	1,620,281 45	986,578 52	2,606,859 97
Pacific Mill and Mining Company	220,575 45	693,459 40	914,034 85
Woodworth Sluice Company	18,769 66	80,817 87	99,587 53
Various assay-offices	22,059 92	27,086 92	49,146 84
Total	17,126,132 90	19,977,574 08	37,103,706 98

C. C. PENDERGAST,
Agent for Wells, Fargo & Co., at Virginia City.

Q. 38. And now, referring to previous years, when to some extent you say you used this same corroborative testimony, how could you have obtained it for those fragmentary portions of the year when they had not then the means, since they have not them yet, of stating their production by months or any other periods than the fiscal year?—A. I don't know how to answer that question. We have never had any difficulty in determining the production of a given mine, by reference to our own books, approximately, and I don't suppose that the mining companies would have less knowledge of it.

Q. 39. From what source was the information contained in your books in regard to the production of particular mines derived—from the express carriage, or from the newspaper reports concerning the mines?—A. From the express carriage.

Q. 40. Then, if your books alone enabled you to determine, through the medium of express carriage, what their production was, what corroborative testimony could there have been with regard to those mines in past years previous to 1876?—A. The same method would apply, I think; that is, a statement of the actual amount of bullion produced by the mine, from the secretary, and corroborated by the actual amount of bullion carried by Wells, Fargo & Co. There would be just this variation between Virginia City and Carson in the last three years: a considerable quantity of bullion, ranging from 3½ to 4 or 5 million dollars, has been separated at the mint here. To be perfectly exact as to the quantity sent down from the various mills along the Carson River and else-

where there, we have taken the actual deposit at the mint, and verify the actual amount brought here and carried to Ogden, for instance, all three sources offsetting the stated production of the mines.

Q. 41. If I understand you correctly, then, your express method of estimate of the production of these mines was corroborated in a measure by the local express method of determining the amount sent from the mines to the Carson mint—that is to say, the records of the express from Virginia City to Carson City corroborated the records of the general express of the whole?—A. Yes, sir. The statements of the several mines, as to how much they had sent to Carson for coinage, was corroborated by the amount carried locally and the amount deposited at the mint.

Q. 42. Suppose that a mine had produced $5,000,000 or $10,000,000 of bullion, and had not sent it to the Carson mint at all, but had sent it to San Francisco, what corroboration of the assumption that that was its production for the period to which it related could you have possessed or did you possess?—A. Nothing beyond the fact that the first assumption on our part would be that if it was not sent to the mint, it came by express from Carson City to San Francisco. The next corroborative evidence would be the statement of the product of that mine for that period.

Q. 43. Coming back to the corroborative evidence furnished by the statement of mine-owners in regard to their production, we will take an instance. So far as my memory serves, the fiscal year of the Yellow Jacket ends on the 1st of July, and a statement is set forth in their annual report for the year ending July 1 of the product of the mine, which we will say, for example, is $1,000,000, and we will say also, for example, it is half gold and half silver. Having received the report of the Yellow Jacket mine for the year ending July 1, 1875, and it showing $500,000 each of gold and silver for that fiscal year, and you desiring to make up a tabulation of the total silver product for the year 1875, ending the 31st of December, you make up your estimate from your express records. Further, desiring to obtain corroborative testimony as to the correctness of this estimate, you refer to the reports of the mines, and among them to the report of the Yellow Jacket mine for the fiscal year ending July 1, 1875. The report contains in it a statement of the production for that fiscal year, including the first six months of the calendar year 1875—that is, from the 1st of January until the 1st of July, 1875—but it is not separated from the previous six months; it is lumped together in one statement for the whole fiscal year. Let us say that the Yellow Jacket books, even at the present time, do not enable the superintendent to state by months; and therefore do not enable him to state what the product was for the other six months of the calendar year, 1875. How, then, could you have obtained from their printed report, which included only six months of the calendar year, and not the other six months, corroborative testimony of the product of that mine, when the first six months were lumped in the fiscal year, and the succeeding six months could not have been given by the company?—A. I can only answer your question by saying that it was upon the statement of the receipts by the secretary.

Q. 44. Did you obtain from the secretaries manuscript statements?—A. No, sir; I got printed statements for three years, and my printed statements for the three years especially referred to the Crown Point, for three successive years.

Q. 45. The Crown Point is another mine whose fiscal year ends at

another time than the calendar year. I think its fiscal year ends on the 1st of May. The Crown Point, therefore, would be another instance of a similar character. If you had only the printed reports of the Crown Point, and no written reports from its secretary as to its monthly production, how could you ascertain from that statement what its annual production was, by the calendar year, so as to compare it with your own estimate of the annual production, which is by the calendar year?—A. I have, of course, no means of knowing anything about the method of these mining companies in keeping their books, nor how they kept their records, nor whether they have any records at all; but in making inquiries of that kind I never have failed to get an answer. Whether the answer was incorrect or not, or upon what data it was furnished, I am unable to say.

Q. 46. Did you obtain from the secretaries, or superintendents, or presidents of these mines any other statements than their printed statements?—A. No formal statement, that I remember at present.

Q. 47. Did you obtain any statement at all in manuscript?—A. None that I recollect at present. I had a statement in manuscript from the secretary of the Crown Point, which was made in no formal manner, but just showing me, practically, by months. I made application once for the production of the mines and the dividends at the same time, and I had the same for a period of three years, by months.

Q. 48. Did it show the production or the dividends?—A. It showed both.

Q. 49. Did it show gold and silver separately?—A. No, sir; I never have seen any attempt by any mine, or anybody, to show the separate product, previous to this year.

Q. 50. Do you remember having received a statement of a similar character from any other mine than the Crown Point mine?—A. No, sir.*

Q. 51. Now, as to possible duplications in the invoices of so-called silver, is there, in your opinion, any probability of there having been duplications of the same metal?—A. There is a possibility, but not a probability.

Q. 52. Do you know the system pursued for getting silver to market from the Eureka mine in Nevada?—A. Mainly in pigs of base metal.

Q. 53. To what point are those pigs usually shipped?—A. By the Eureka and Palisade Railroad to Palisade, and through by the Central Pacific Railroad. Whether shipped from Palisade to New York or San Francisco, I do not know.

Q. 54. At what point of its passage would it enter into your express company's books?—A. Right at Eureka, and nowhere else.

Q. 55. It could not possibly enter upon the express company's books at any subsequent point?—A. No, sir.

Q. 56. Is there any silver shipped from any silver-mines to Ogden or Salt Lake City, for the purpose of being there refined?—A. Yes, sir—Salt Lake City.

Q. 57. In going from the mines to Salt Lake City to be refined, does that silver pass through your express company?—A. No, sir; not until after it is refined.

Q. 58. What means of conveyance are used for transporting that silver from the mines to Salt Lake City?—A. Either freight-teams or freight-trains, as may be accessible. If it is on a railroad, it goes by the freight-trains, but never by express—the base bullion.

Q. 59. Is there any such advantage to the shippers, to ship by conveyances other than the express company, that they should choose the

* See note to questions Nos. 16 and 26.

other means?—A. O, yes, sir; the rates by express are rarely less than three times the regular railroad rates on freight; all of that; three times being rated on first-class freight.

Q. 60. You allude to the rate by weight or by bulk?—A. The rate by weight. Lead, which is the chief weight in this bullion, is always subject to the lowest class of railroad-freight rates.

Q. 61. Is there any advantage on the part of shippers, after that base bullion has been refined, to ship it in the form of refined metal through your express company, over continuing to ship by the railroad company?—A. As to advantages, there are the liability of the express company for its value, the rapidity with which it is transmitted, universal custom, and greater security. In this connection, I may say that I know of no transportation, whether rail, stage, team, steamboat, or other, of silver as freight or merchandise. It is always at what we term treasure-rates, and by value.

Q. 62. Is the value-rate the rate used by the express company?—A. Altogether.

Q. 63. Is that the rate adopted by the railroad company?—A. No, sir; it has no bearing at all upon it.

Q. 64. Now, then, if I understand you correctly, you assume as a mat ter of fact that, until ores or bullion are brought to a refined condition, they are not shipped by express?—A. No.

Q. 65. And after they are brought to a refined condition they are always sent by express?—A. After they are brought to the refined condition the gold and silver is always sent by express.

Q. 66. After the gold and silver has been sent by express from one point to another, is it possible that the same gold or silver may be again shipped by the same express to another point?—A. Yes, sir; it frequently is, but not reported or accounted for as an original product.

Q. 67. When refined gold or silver is shipped by your express, do you require, or is it customary on the part of the shipper to give, a statement as to whether it is an original product or not; or what means have you for determining whether it be an original product or not?—A Our own information as to the general course of gold and silver from its production until it reaches San Francisco on the west or, when making its way to New York, Ogden on the east.

Q. 68. Then in the case of any shipment which does not follow the usual course, you are still left in uncertainty as to whether it be of an original product or not?—A. Yes.

Q. 69. How often or to what extent have you reason to believe that such exceptional shipments have been or are still being made?—A. As far as the product of silver or the gold contained in silver is concerned, to no appreciable degree; as far as the original gold-product of the State or Territory, a duplication of, say, 5 per cent. would, I think, be considered reasonable.

Q. 70. What means have you for estimating the proportion of the departures from the usual course of shipments in the case of silver?—A. My means and conclusions are formed from 15 years' continuous experience with this character of business, and from a knowledge of the necessities of the business. That it is more economical on the part of the purchaser to ship his bullion from the point where produced, directly to San Francisco, or directly to Ogden intended for New York, than it is to ship it to any intermediate or local point for any cause. It subjects it to a higher rate; every time it is reshipped it is subjected to the local rates. The shippers invariably, according to our observation, and there is no doubt, invariably, resort to the through shipment, making San

Francisco and New York as through points. They invariably resort to that as an economical measure.

Q. 71. We will now, if you please, leave the question as to the duplication of invoices, and revert to the question of the means that you have used to ascertain the proportion of gold and silver in doré bars. How is that determined?—A. First, I may say in this connection that I have been familiar with the production of the Comstock mines since 1861, having lived in Virginia City during 1862, '63, '64, and '65, and the production as far back as 1861 would run from $20 to $35 per pound avoirdupois of bullion, according to the particular locality of the lode from which it was extracted—that is, gold and silver mixed. That is the first; that is from general knowledge. The second would be the assayed value placed upon bars shipped by the several mining companies through the express; they, as I have always understood it, estimating the value upon the old standard of, say, 15½ of silver to 1 of gold, in reaching the value of it. That valuation has always been way-billed through the express with its value in gold and its value in silver stamped upon the bars. At times the value of gold and silver is in one set of figures, or one lump, but where its assays are sharply marked of gold and silver, it is nearly always separate.

Q. 72. When a mine or person ships a doré bar by an express company, are the charges made according to the value of such bar? Is the value of the doré bar stated in the manifest or the way-bill?—A. Always.

Q. 73. Is the whole value of the bar stated?—A. Yes, sir.

Q. 74. Is any other than the whole value of the bar stated?—A. Not that I know of.

Q. 75. If, then, only the whole lump sum of the bar is stated in the manifest of the express company, what means have you of determining the proportion of silver and gold contained in such bars?—A. We had no means other than the knowledge of the mines; the general proportion of gold and silver which that mine produced, based upon our general knowledge derived from several years' experience and residence in Virginia City.

Q. 76. During the several years that you resided in Virginia City and made these estimates of the relative value of gold and silver contained in the bars shipped by the mines of that vicinity, was there, to your knowledge, any change in that relative proportion? In other words, was there in some years a greater proportion of gold in the bars than in other years, and in other years a greater proportion of silver in the bars?—A. Yes, sir; that is my impression.

Q. 77. Was there also a great difference in the proportion of gold and silver contained in the bars shipped from the various mines?—A. Yes, sir.

Q. 78. Or did some mines, as, for example, the Belcher, show a very much larger proportion of gold than silver in their bars?—A. Yes, sir.

Q. 79. And some other mines show a very much larger proportion of silver than gold in their bars?—A. Yes, sir.

Q. 80. Are the productions of the mines of varying value?—A. Yes, sir.

Q. 81. At times, one mine would yield a large proportion of the precious metals, and at other times a very little?—A. Yes, sir.

Q. 82. If, therefore, the relative proportions of gold and silver changed in all the mines from year to year, taken together, and if the relative proportion of the gold and silver changed from day to day in each mine, severally, was there room for considerable error in an estimate of the

relative amount of gold and silver contained in all of the shipments of all of the bars from all of the mines?—A. Yes, sir; there was room for it.

Q. 83. Now, then, coming to the improved methods of estimation pursued by you in your estimate for the year 1876, I will ask you what means you have adopted this year to ascertain definitely the proportion of gold and silver contained in the doré bars shipped from the vicinity of the Comstock lode?—A. By procuring an actual statement from each of the mines, the two milling companies working the tailings, and the assay-offices of Virginia City; the last two being relatively unimportant. In this statement the proportions of gold and silver were definitely stated. The total sum of the statement derived from the mines agreed with the total sum estimated by the express method.

Q. 84. The corroboration of the correctness of the express method, therefore, was limited to the total sum?—A. Yes, sir.

Q. 85. And did not extend to the proportions of gold and silver?—A. No, sir. We accepted the statement of the proportion, because we found the total sum to agree.

Q. 86. At what date did you or your agent in Virginia City apply to the mines for a statement of their production during 1876; what precise date?—A. The application was made in the neighborhood of the 1st December, 1876.

Q. 87. How long after the 1st December?—A. About the 1st December; but the information was not furnished until after the 20th, and estimated since that time.

Q. 88. Was it furnished from all of the mines on the same day, or the same week, or within two or three days of one another?—A. Within a few days, as I understand it. I received it from our agent there.

Q. 89. Up to what general date do you assume those returns to come, as a whole?—A. I would say about the middle of December, without being exact.

Q. 90. How did you determine the production and proportions of gold and silver for the remainder of the calendar year from the 15th December, 1876, to the 1st of January, 1877?—A. We estimated for the unexpired portion upon the basis of the previous period.

Q. 91. Was that estimate merely as to proportion, or was it also as to production?—A. Both as to production and proportion. The important point for the production of doré bullion is the Comstock lode, in Virginia City and Gold Hill, outside of which the Richmond mine, of Eureka, shows the most important production of gold in Nevada. To a much less extent, Idaho Territory is at present producing.

Q. 92. What is the percentage of gold in the Richmond mine?—A. My impression is that its product was almost one-half gold in value.

Q. 93. Do you recollect about the Cornucopia?—A. That is about 25 per cent., gold.

Q. 94. The Pioche district?—A. Five or six per cent., I think.

Q. 95. In Utah and Colorado?—A. There is no considerable amount of gold in either of them. The great production of Utah is in the form of base bullion. The lead in all of their mines forms an important feature in the bulk of it, though the main value, of course, is in silver.

Q. 96. How do you get at the fact mentioned in your printed circular of December 30, 1876, that the whole product of Nevada is only 35 per cent. of gold?—A. We take all of the gold that we can find account of in the State and apply it to the whole product of the State.

Q. 97. You have under the head of Nevada "gold dust and bullion by express," $220,000; by other conveyances than the express, $22,000; total, about $242,000 of dust and bullion specifically stated to be gold.

Now, you have under the head of "silver bullion by express," which comprises doré bars, $44,700,000.—A. Yes, sir.

Q. 98. Of which $37,000,000 is from the Comstock, and the proportions of gold and silver is ascertained?—A. Yes, sir.

Q. 99. That would leave about $8,000,000 for other districts than the Comstock, in the State of Nevada?—A. Yes, sir.

Q. 100. You have also, under the head of "Ores and base bullion by freight," $4,300,000 for the State of Nevada. How do you estimate the proportions of precious metals contained in that sum?—A. By direct inquiries from the officers of the mining companies in two instances in San Francisco, and by application at the smelting-works in San Francisco and Eureka.

Q. 101. I find in your statement of the production of the State of Nevada for 1876 a total of $49,200,000 of gold and silver. Now, I desire to ascertain from you how that $49,200,000 is divided up into gold and silver and base bullion. For $37,000,000 I find that you credit to the Comstock lode $17,100,000 gold and $19,900,000 silver; so that $37,000,000 of the $49,200,000 is divided up and accounted for?—A. Yes, sir.

Q. 102. The next constituent of the $49,200,000 is the sum of $4,300,000 under the head of ores and base bullion. Without asking you the method of your computation in this respect, which you have already explained, I will now ask you the result of the division of that $4,300,000 into silver and gold. How much do you credit to gold and how much do you credit to silver of that $4,300,000, under the head of ores and base bullion?—A. Of that amount of $4,300,000 the proportion of gold would not be 5 per cent. I have not estimated upon the basis of a percentage at all.

Q. 103. How much of it was gold, how much of it was silver, and how much of it was lead, &c.?—A. I can tell how much of it was silver, but the gold is not appreciable in it.

Q. 104. Your statement is how much gold?—A. I don't think the gold is appreciable, except in so far as we might consider it in the case of the Tybo mine, with the character of the production of which I am not familiar, but it is something like $600,000.

Q. 105. How much lead and other base matter is in the $4,300,000?—A. $1,400,000 in base metal, in round figures.

Q. 106. How much silver would there be?—A. The remainder was practically silver; to all intents and purposes, no gold. As far as our investigation goes, there is only $600,000 involved in that which is doubtful, and that is Tybo; and I cannot tell what that is composed of. I don't know whether it contains any gold.

Q. 107. Your final answer as to the proportions is what?—A. My final answer as to the proportions of the $4,300,000 would be, lead, about $1,300,000, and the remainder silver; and the gold inappreciable.

Q. 108. The gold, you think, is about 5 per cent?—A. The gold is hardly appreciable.

Q. 109. Your final answer is that of the amount of precious metals contained in the $4,300,000, $3,000,000 is silver?—A. Yes, sir. I would add, in explanation, the following: As to the Eureka district, Nevada, the character of ores and bullion considered under the head of base, shows a greater proportion of gold than any other point producing a similar amount. I would say that certain mines at Eureka produce a bullion that, when refined, carries an unusual quantity of gold for that character of bullion, the same weighing not to exceed 35 pounds to $1,000 value.

Q. 110. As a further constituent of the total sum of the $49,200,000 credited to the State of Navada, there appears to be $242,000 credited to gold alone. Is that correct?—A. We assume so. We find that we have carried $220,000 of that amount from different points.

Q. 111. As a last constituent of the sum of $49,200,000 for the State of Nevada, there remains $7,700,000 of mixed gold and silver, produced in the State of Nevada, outside of the Comstock lode, and which I beg that you will account for in the proportion of gold and silver which you estimate that it contains.—A. $1,500,000 in gold, in round figures, and $6,200,000 in silver.

Q. 112. According to the statements you have made with regard to the constituents of the $49,200,000 credited to the State of Nevada, it would appear that of the Comstock-lode production there was $17,100,000 in gold, $19,900,000 silver, and no lead; total, $37,000,000. That, of the ores and base bullion by freight, there was no gold, or so small a quantity of it as to be inappreciable; that there was $3,000,000 of silver and $1,300,000 lead; total, $4,300,000. That of the gold produced in the State of Nevada outside of the Comstock lode there was $242,000, in which there was no lead, and no silver; total, $242,000. That of the other precious metals, or doré bars, produced outside of the Comstock lode, there was $1,500,000 gold, $6,200,000 silver, and no lead; total, $7,700,000. The sum of these four totals, of $37,000,000, $4,300,000, $242,000, and $7,700,000, is $49,200,000. If these subdivisions of the total production of the State of Nevada be regarded as correct and final, it would follow that the percentage of silver produced in the State of Nevada was 59, that being the proportion of $29,100,000 to $49,200,000; that the percentage of gold was 38, that being the relation of $18,800,000 to $49,200,000; and that the proportion of lead and other base metals was 3 per cent., that being the relation of $1,300,000 to $49,200,000. If such be the case, that of the whole amount of metals produced in Nevada the gold amounted to 38 per cent., how do you account for the statement in your estimate that "of the whole product of Nevada 35 per cent. was gold?"—A. In giving you the figures here I have jumped at the percentage. Probably if I had taken the exact figures that would account for that difference of percentage. I figured that 38 per cent. precisely as you have, and I afterward, for some reason given by our auditor, who was assisting me, with which I was satisfied, called it 35 per cent., but the exact reason I do not now remember.*

Q. 113. Referring again to your figures in the printed table dated December 30, 1876, I find that the total production of the State of Nevada is stated at $49,200,000. Of this amount, according to the statement made by you during the progress of this testimony, $1,300,000 is credited to lead and other base metals. This would leave, as a net product of the precious metals for the State of Nevada, $47,900,000. The arithmetical percentage to $47,900,000 of $29,100,000 of total silver product is $60\frac{7}{10}$, and the arithmetical percentage to $47,900,000 of $18,800,000 of total gold product is $39\frac{3}{10}$, making a total of 100 per cent. of the two precious metals, silver and gold. I now desire to ask you, in view of the statements made by you, and of the arithmetical percentages recounted to you, which I herewith present to you on a piece of paper, whether or not the deductions that I have made are correct, viz, that of the precious metals which, according to the figures in your circular of December 30, were produced in the State of Nevada, the

*NOTE MADE JANUARY 3, 1877.—Thirty-eight per cent., as originally calculated by myself, was and is correct, and 35 per cent. is a clerical error, resulting from lack of time for a final personal scrutiny.—JNO. J. VALENTINE.

percentage of silver is $60\frac{7}{10}$ and of gold $39\frac{3}{10}$ for 1876?—A. Yes, sir; I think they are.

Q. 114. I observe from your statement of December 30, 1876, that the total sum of silver bullion by express is $51,800,000, of which the State of Nevada figures for $44,700,000, leaving for all of the United States outside of the State of Nevada $7,100,000. I observe, also, in the same statement, that the total sum of "ores and base bullion by freight" is $13,400,000, less for Nevada, as previously estimated by you, $4,300,000, leaving outside of Nevada $9,100,000. You state further on, also, that the whole amount of base metals, lead and copper, in the United States, included in this statement, is $5,000,000. If there be deducted from this, $1,300,000 as the quota of Nevada, there will be left $3,700,000 as the quota of the other States. If this amount be deducted from the $16,200,000, which is the sum of the two previous quotients of $7,100,000 and $9,100,000, there would be left, as the total sum of production of silver outside of the State of Nevada $12,500,000. If to this there be added the $29,100,000 previously determined to be the silver product of the State of Nevada, the total sum will be $41,600,000, which agrees very nearly with the figure in your recapitulatory table, viz, where you state that the total silver product for 1876 is $41,506,672.

I desire now to ask you if there is any reason to believe that, in the $12,500,000 "silver bullion by express" and "silver in ores and base bullion by freight" credited to States other than Nevada, there is contained any gold?—A. A very small percentage, which is almost inappreciable.

Q. 115. Can you assist the commission to make any estimate at all of this percentage, however small it may be? What might be your approximate conjecture as to the extent or degree or amount?—A. Possibly two per cent. It has been impossible for us to get any reliable data from Arizona. I do not credit Arizona with producing any large amount of gold. We ran an express through Arizona fifteen years ago. In making up the estimate for Arizona this year we took every means of transport that leads into or out of it except the United States mail, and I assume that very little gold has ever come from there, also for the reason that every time a lot of gold-dust is deposited in United States mints the question is expected to be asked, where is it produced, or where was it remitted from. By these means a tolerably fair estimate of where it came from is obtained.

Q. 116. You estimate the gold production for Arizona to have been $103,000?—A. Yes, sir. The silver production is larger and more accurate, because we have the exact number of tons carried out by the Colorado River on one side and the exact amount of bars brought up to Indian Wells, Fort Yuma, and San Diego on the other side, and the New Mexican stage-line overland; and these are the three evidences or outlets.

Q. 117. Of the various methods which have been pursued for ascertaining the production of the precious metals in the United States, to wit, the export, coinage, and consumption method, the method of inquiries at the banks and assay-offices, the method of inquiries addressed to executive officers of State and territorial governments, and the express method pursued by you, which do you deem the most reliable; and which, in case of a conflict of evidence between them, would you regard as correct, to the exclusion of the others?—A. We, of course, incline to our own method, the express having agencies at every point producing any appreciable amount of gold and silver in States and Territories west of the Missouri River, British Columbia and the west coast of Mexico included; and being in constant communication with all par-

ties engaged in the production of gold and silver, we believe our opportunities are better and more extensive than those possessed by persons prosecuting inquiries by any of the other methods named.

Q. 118. In reference to your last answer, I observe that an estimate has been made of the production of the Territory of Arizona, dated Tucson, July 19, 1876,* which gives the annual yield of gold at $1,000,000, and of silver at $500,000, a statement which, both in totals and details, differs from your own. Have you reason for believing such statement to be incorrect?—A. I answer by reading a clause from my report of December 30, 1876: "A large gold-yield is often claimed for Arizona and New Mexico; but as $2,710,000, or an average of less than $100,000 per year, is the total amount deposited in United States mints since 1848, as from those Territories combined, we think such claims cannot be substantiated."

Q. 119. Recurring to the subject of freight-charges, are you familiar with the rate and manner of charges of freight for gold and silver throughout the United States?—A. Yes, sir.

Q. 120. Please state whether such charges are made by weight or by value.—A. Always by value; but in the case of silver, either coin or bullion, it is from 50 to 100 per cent. higher than the gold rate, because of the greater weight of the silver.

Q. 121. Are you speaking now with reference to Wells, Fargo & Co.'s express; or with reference to the general course pursued by carrying companies?—A. It is the universal custom, both in expressing and railroading.

Q. 122. Is it the same with steamboats and other water conveyances?—A. No, sir; I don't think that it prevails at all.

Q. 123. Suppose that I desire to ship $1,000,000 in gold coin from San Francisco to Ogden, and that at the same time I also desire to ship $1,000,000 in silver coin to Ogden, would there be any difference in the rates?—A. Yes, sir; the gold-coin rate would be $4.50 per thousand dollars, and on silver coin $7 per thousand dollars.

Q. 124. What would be the rates respectively from San Francisco to New York?—A. $4.50 per thousand for gold, and $15 per thousand for silver.

Q. 125. What is the reason that the rate on gold to New York is no greater than it is to Ogden, while the rate on silver is double as much?—A. Owing to the competition by the United States mail; the rate by mail being precisely the same from San Francisco to New York as from San Francisco to Sacramento or any near-by place. The mail-rate is uniform without regard to distance. While the mail performs its service with ordinary dispatch it assumes no responsibility on the treasure carried, while the express companies do.

Q. 126. If I understand you correctly, then, the express-charges on shipping silver and silver coin are about one-half as much again as they are on gold or gold coin throughout the United States generally?—A. Yes, sir.

Q. 127. Do you know what are the relative freight-charges upon shipments of gold and silver by the steamboats and other coasting-vessels plying between points on the Pacific coast? If so, please state them.—A. They are the same for silver as for gold: by value.

Q. 128. Does your answer relate exclusively to the vessels upon which your express company operates, or does it include other vessels as well, if there be any?—A. It includes all vessels regularly in the Pacific coast trade.

* See Report of Director of the United States Mint, dated October 20, 1876, page 54.

Q. 129. I observe in your table of the production of the precious metals in the States and Territories west of the Missouri River during 1876, the sum of $2,200,000 credited to Mexico, and $1,400,000 credited to British Columbia. Might these same sums not be included in the Mexican account of the production of the precious metals in Mexico, and in the British Columbian account of the production of the precious metals in British Columbia?—A. Yes, sir; they undoubtedly would be.

Q. 130. Confining the question to Mexico, would not the $2,200,000 credited to the Pacific slope of that country, if sent into San Francisco or any other portion of this country, be entered upon the imports into this country and at the custom-houses?—A. Yes, sir.

Q. 131. Now I ask the same question with regard to British Columbia?—A. Not altogether as regards British Columbia. A portion of the gold is brought away upon the persons of passengers, and that portion comes without any regular record of its importation. We try to reach that by adding a percentage of the amount regularly manifested by express; and we have assumed that ten per cent. of the amount carried by express would reach here on the persons of passengers, namely $131,000, making a total of $1,441,000 estimated to have come hither from British Columbia during 1876.

Q. 132. So $1,310,000 credited to British Columbia under the head of "gold-dust and bullion by express" was entered at the custom-house?—A. Yes, sir.

Q. 133. Do you desire to say anything further than what you have said in reply to the questions which I have asked you in this connection?—A. No, sir.

JNO. J. VALENTINE.

Express shipments of gold and silver other than Comstock, 1876.

Points of shipment.	Amount.	Points of shipment.	Amount.
Austin	$1,245,973	Gold Hill, (Comstock)	$164,717
Battle Mountain	18,817	Hamilton, (White Pine)	588,950
Belleville	1,444,416	Jefferson	130,381
Belmont	244	Mill City	400
Beowawe	20,234	Oreana	1,100
Brown's	37	Palisado	9,811
Carson	25,543	Pioche	1,280,549
Cherry Creek	116,061	Reno	7,525
Columbus	124,153	Rye Patch	50,742
Cornucopia	503,246	Silver City	159,782
Dayton, (Comstock)	179,418	Tybo	100,876
Elko	66,576	Unionville	124,473
Eureka	1,082,411	Winnemucca	166,692
Genoa	800	Aurora	4,300
Golconda	450	Tuscarora	3,477
			7,622,094

J. J. VALENTINE,
General Superintendent Wells, Fargo & Co.

SAN FRANCISCO, *January* 3, 1877.

APPENDIX N.

THE UNITED STATES MONETARY COMMISSION,
San Francisco, January 6, 1877.

Present, Hon. Alexander Del Mar, representing the commission.
Examination of ALBERT GANSL.

By Mr. DEL MAR:

Question 1. What is your residence and occupation?—Answer. San Francisco; occupation, banker.

Q. 2. I am instructed and authorized by the United States Monetary Commission, formed under the joint resolution of Congress dated August 15, 1876, to make inquiries concerning the production of the precious metals on the Pacific coast, and in that respect, with your permission, I will submit to you a few inquiries. I have here an estimate marked "A," which you have been kind enough to favor me with, of the production of silver in the United States during the calendar year 1876, the amount of which is $40,654,494.

A.

From January 1 *to September* 30, 1876.

Comstock mines, $29,626,684 doré, of which 65 per cent. silver	$19,263,845
Other districts in Nevada	5,390,649
	24,654,494
Quarter to December 31, 1876, estimated	6,000,000
	30,654,494
Utah, Colorado, Idaho, Montana, and Arizona produce about	10,000,000
Total, 1876	40,654,494

Does that estimate relate to the same period as the estimate which you made in March, 1876, marked "B," and which is published in the appendix to the Royal Commission report, page 74?—A. Yes, sir.

B.

SAN FRANCISCO, *March* 17, 1876.

Messrs. N. M. ROTHSCHILD and SONS, *London.*

GENTLEMEN: In reply to your inquiry, we had the honor to telegraph you to-day as follows: "Estimated production this year $40,000,000 in gold, and about equal amount in silver. Refer to letters 14th January and 16th February; further details by mail."

In the above-mentioned letters we gave the estimate of the production of precious metals during the current year at $85,000,000, equally divided between gold and silver, and we have every reason to think our figures to be as correct as possible, having made personally the most diligent inquiries. We now inclose a statement of the production of gold and silver; for the first metal, from 1848 to 1873, and for the second, from 1860 to 1876 inclusive—the latter figure being estimated from present developments in the mines as given by the United States Commissioner of Mining Statistics:

The production of native gold from gold-mines proper is valued at	$25,000,000
Gold contained in silver bullion	15,000,000
	40,000,000

And the production of silver bullion is estimated at from $50,000,000 to $55,000,000, from which are to be deducted $15,000,000 gold contained in the same, leaving the production of silver proper at about $40,000,000. From present developments of silver-ore in the principal mines, it is nearly certain that the production of silver will be maintained at present figures for several years to come, while the production of gold from the gold-mines has been steadily decreasing, without any present prospect of improvement. Nearly all the gold goes to the United States Mint, and is generally exported

in the shape of coin from New York; and the statistics of exports from that port will give you approximately the total amount of gold exported from the United States. It may be assumed that the export of silver from this port to China amounts to six or seven million dollars per annum, that is, of American silver; the amount is somewhat larger, but the surplus consists of Mexican dollars, which are imported and not produced here.

The United States Government has bought during the last year some $12,000,000 in silver, and it was currently reported during the last few days that they have contracted again for $20,000,000, to be paid for on delivery, at London market-price, less freight and insurance, and adding the difference of exchange from the intrinsic value of the English sovereign and the price of sight exchange in New York on London. This statement lacks still confirmation, but if the contract is not yet made, it is beyond a doubt that the United States Government will buy large amounts of silver to replace the fractional paper currency, of which $42,000,000 are in circulation.

The consumption of silver for the use of arts and manufacturing purposes in the United States is calculated at about $6,000,000. These are all the details which I could obtain with regard to the production and use of the precious metals in this country, and I shall keep you informed of all the changes which may occur in the future.

Yours, &c.,

A. GANSL.

Q. 3. As it may come in conflict, or be compared with other statements from other parties in this country, I desire to ascertain the manner in which you have prepared the said statement, and your reply is embodied in the memorandum which you have also been good enough to give me, marked "C," which memorandum will form a part of my report.—A. Yes, sir.

C.

Memorandum by Mr. Gansl.

SAN FRANCISCO, *January* 5, 1877.

My estimate of the production of bullion in the State of Nevada is based upon the amount on which a tax has been paid in the tax-collector's offices of the various mining districts of that State, but as the figures are frequently obtained in an indirect way and through correspondents, the accuracy of these figures can only be assumed as correct with a high degree of probability.

The amount of gold contained in the bullion was found by me in separating the gold from the silver in about $60,000,000 of bullion which passed through my hands in a series of years, and from these accounts it would result that the Comstock bullion averages about 35 per cent. in gold. During the last three years, and since the silver market was fluctuating so violently, I have had but few transactions in bullion, and can therefore only assume that the present proportion of gold and silver is the same as in the years from 1869 to 1872. The estimate of the production of other States and Territories outside of Nevada is obtained through information from Messrs. Valentine, Garnett, and other non-official sources.

Q. 4. The returns which you use as the basis for the calculation marked "A," as I understand it, come up to the 30th of September?—A. Yes, sir; and the balance was estimated.

Q. 5. I have a return from the mines of the Comstock lode, showing the total bullion product for the calendar year 1876. The total of this return is $37,000,000, of which $17,100,000 was in gold and $19,900,000 in silver. This estimate is that which Mr. Valentine got lately, in order to sustain his express figures. Can you account to me for the discrepancy between this statement, showing $19,900,000 in silver for the whole year, and the statement in Exhibit A upon which you have based your estimate showing $19,263,845 for three-quarters of the year?—A. Yes, sir; because very likely the proportion of silver contained in the total $29,626,684 of doré of the assessors' returns is less than that assumed by me. It must have been 54 per cent. instead of 65 per cent. as estimated by me. The total gold and silver from the Comstock up to the 30th of September was $29,626,684, which makes an estimate of $37,000,000 for the year about correct. The difference here is only in the larger amount of gold supposed to be contained in the doré bullion.

Q. 6. You say here in your memorandum marked "C," that in estimating the proportion of silver and gold in the production of the Comstock lode for this year you derive that estimate from actual observations of your own upon $60,000,000 of bullion which came from that lode during the years from 1869 to '73?—A. Yes, sir.

Q. 7. I desire now to ask you whether your information does not lead you to believe that the relation of silver to gold in the doré bars from the Comstock lode has differed in other years from the average you obtained from the years 1869 to '73?—A. It may have differed. That is the reason I cannot give it with any degree of precision. I came to that conclusion by experience through these years. Of late I have not been dealing in bullion, and therefore I could not make more correct estimates.

Q. 8. Have you any knowledge as to any difference between the present proportions and the proportions that existed at that time?—A. No, sir; I have thought that the proportion was about permanent, because in some of the mines the yield was larger, while in some others it decreased.

Q. 9. In your estimate marked "Exhibit B," dated March 17, 1876, addressed to Rothschild & Sons, and published in the report of the parliamentary committee on the depreciation of silver, appendix, page 74, there is an estimate of $40,000,000 production of silver. To what year does that relate, the calendar year 1875 or the calendar year 1876?—A. 1876.

Q. 10. That is an estimate in advance?—A. Yes, sir.

Q. 11. The statement you have handed me, marked "A," amounting to $40,654,494, is a statement made afterward relating to the same year?—A. A statement made afterward relating to the same year, as far as I could get the data. It is up to September 30 actual, and for the remainder estimated, and any discrepancy that may be in it is only the difference in the proportion of gold and silver.

Q. 12. Then this estimate covers the same period as the estimate which you made last March, and which is published in the report of the parliamentary committee?—A. Yes, sir.

Q. 13. In this statement marked "A" you estimate $10,000,000 for the silver produced in Utah, Colorado, Idaho, Montana, and Arizona. From what source did you obtain that estimate, or what basis have you for that estimate of $10,000,000?—A. I got it from different sources; from bankers here, who tell me so much silver is shipped to the New York market; I receive it through the express-officers; I receive it from all of the different sources of information, as every business man wants to get a glimpse or an approximation.

Q. 14. Then, I take it that you compare one source of information with another, and form your own conclusion as to their correctness?—A. Yes, sir; I form my conclusion as to their correctness.

Q. 15. In your memorandum, marked "C," you state that the estimate of the products of other States and Territories outside of Nevada is obtained from information from Messrs. Valentine, Garnett, and other non-official sources?—A. Yes, sir.

Q. 16. What opportunities has Mr. Garnett for obtaining the production of the States outside of Nevada?—A. I don't know what his sources of information are.

Q. 17. Is he in charge of any establishment through which the precious metals pass?—A. He has been up to the last year the president of the San Francisco Refinery-Works, and had a great deal to do with the bullion-trade of the country.

Q. 18. Has he still that same connection?—A. No, sir; but I think that he continues to make statistics. He seems to take the same interest in the matter that he did before.

Q. 19. Do you think he has the same opportunities for making a correct estimate now as when he had official charge of some portion of the channels through which bullion passes?—A. Exactly the same.

Q. 20. And you therefore place confidence in his estimate of $10,000,000 for the States outside of Nevada?—A. Yes, sir, fully; and it is corroborated to a very great extent by Mr. Valentine's report. If you take all of those means together, the difference will be a very small one. And then I have from New York the amount of silver that comes from other places. They write to me from London, "Some silver bullion has arrived from America to Paris or London. Where does it come from?" And I inquire, and I know it did not come from Nevada, because it did not come to this market. It came to New York and came to the English market, without coming from the State of Nevada, and without coming from the Comstock, in Nevada, and probably the estimate of $10,000,000 is about correct. Of course it is guess-work. I cannot give the figures with any degree of accuracy.

Q. 21. Do you assume that all of the silver produced in Nevada comes to this market, as you just now stated?—A. Nearly all; and even if it does not come to this market, it always goes through the channels of this market. It is controlled by bankers and merchants here; and, therefore, we know pretty well all about it, even when it is shipped directly from the mines to the East.

Q. 22. I desire to ask you if you have made an estimate of the production of silver in the United States for any year other than the year 1876? Did you make one for 1875, 1874, or 1873?—A. Probably I wrote every year, at the end of the year, in a very off-hand way, making a remark at the close such as, "our bullion production has been so much." Whether I made it from my own statistics, or took it from Wells, Fargo & Co.'s, or somewhere else, I don't know. I didn't figure it so close, because it was of no special object, only since the silver question came up; it then became very important, and the house of Rothschild & Son asked me at the time, or telegraphed to me, and I said "in reply to your telegram," because they said, "our government is very anxious to receive it," and then I went to work.

Q. 23. If you did make an estimate prior to 1876, did you make it by the same method that you did this one; did you base it upon the assessors' returns?—A. Yes, sir; most of the time.

Q. 24. In every case in which you made an estimate in previous years, did you base such estimate upon the assessors' returns?—A. Upon the assessors' returns partly and partly on the returns of some mines in the more distant districts. As to the Pioche district, I was intimate with the president of the mine, and I asked him, "How much did you produce this year?" and he gave me his correct figures, may be $120,000 a month. Raymond & Ely may produce one hundred or one hundred and twenty per month. They were the larger mines, and I was well acquainted with the managers and directors of the company, and they gave me the figures. For these I didn't refer to the assessors' books.

Q. 25. Let me ask you if the assessors' returns, which you consulted, relate to the whole State of Nevada, or only to the county in which the Comstock lode is situated?—A. There are different tax-collectors and different districts. Take the Ely district and the Pioche district, and there is a tax-collector in each one.

Q. 26. Is it a State law under which these assessors' returns are obtained?—A. It is a State law under which the tax is collected.

Q. 27. When you took the assessors' returns as a basis of your calculations, and you also consulted the owners or directors of the Pioche and other mines, did you add their statement to the estimate that you had obtained from the assessors, or merely use it for the purpose of comparing it with the assessors' returns of these districts?—A. Only to compare the two accounts.

Q. 28. If you used them only for the purpose of comparison, did you, during the making of that comparison, find any remarkable discrepancy between the returns to the assessors and the statements made to you by the mine-owners?—A. I inquired from the mining companies only when I had no statement from the tax-collectors. For instance, in the farther districts, where I could not get information of the assessors' returns from my correspondent, I went to the mining companies and added their returns to the assessors' returns for those other districts.

Q. 29. Then you think there is no danger of your having included two sets of returns covering the same district?—A. No, sir; and I see from Wells, Fargo & Co.'s returns of the shipments that the $29,626,684 for the Comstock is a very correct figure.

Q. 30. The figure to which you allude is not that of Wells, Fargo & Co.'s shipments, but that which Wells, Fargo & Co. obtained through Mr. Pendergast, their agent, on application to the mine-owners, showing the production of the Comstock lode by mines during 1876. Wells, Fargo & Co. have not published any statement of their shipments.—A. It is so much more correct, then; that is the correct information.

Q. 31. Have you, in making your various estimates, been guided by the annual circular issued for many years past by Wells, Fargo & Co.?—A. Occasionally, but not always; and proof of that is that I went to work in September, long before they published their circular for 1876.

Q. 32. But as regards the previous years; did you work independently of them altogether, or did you have recourse to their statements?—A. Always had recourse to their statements, and always guided by them.

Q. 33. If it should turn out that Wells, Fargo & Co.'s statements were wrong, then your own statements would be erroneous?—A. No, sir. I have compared the statements of Wells, Fargo & Co., with the statements of Mr. Garnett; and I could sometimes be guided by actual amounts of bullion which came into the market and came into my hands. For instance, during the flush times of Belcher, most of the bullion went through my hands. I didn't buy it directly from the mine, but from the Bank of California, which had control of it; and so I got a very correct idea of the production of that mine. So with a great many others. About $60,000,000 passed through my hands from 1869 to 1873, when it slackened off. This was after the German war.

Q. 34. As Wells, Fargo & Co.'s statement, previous to 1876, was made up not from the records of the mines, nor by mines, but by States, how could you have been guided in your estimates by the production from the Belcher or other mines which you knew of, since it passed through your hands? How could you have compared Wells, Fargo & Co.'s statement, which was not by mines, with your own knowledge and your own business, which was by mines? Suppose Wells, Fargo & Co.'s estimate stated that the production of the State of Nevada this year was $30,000,000, but not by mines, and you found the production of the Belcher was $10,000,000, how could you tell whether Wells, Fargo & Co.'s estimate was correct or not?—A. I know, for instance, the amount of bullion which was delivered to me directly, which I received, and which

passed through my hands. I knew the amount of bullion which went into the refinery here. I knew the amount of bullion which was sent to the mint for the manufacture of trade dollars or otherwise, and I knew the amount of bullion which was shipped by other bankers, either by steamer or by Wells, Fargo & Co.'s Express. Being very careful to omit every amount which had gone through the refinery, because all of the shipments to China were charged already in the refinery, and in order not to duplicate them, I always deducted their amount. And then, comparing all of these figures, together with the statement of Wells, Fargo & Co., I came to a conclusion whether their figures were about correct or not, without giving the matter any degree of consideration. This was not my business or intention, as I just wanted to give to my correspondents in England general information. It was more to give them an idea of the prosperity of the country than to give them the precise figures of the actual production. To say that it produced thirty-two or twenty-eight millions, I would give it in a very general way; as, for example, "The production of gold has been declining," giving the reasons therefor, such as want of water, &c., just the same as I speak of the crops and the wool here. I speak about the production of bullion without having the object of making precise statistics, which does not enter in any way into the attributes of my business.

Q. 35. Then you make no pretensions to exactness in any of your statements?—A. In no degree, except when I am called upon, as I was last year, to give them statistics. Then I take all the trouble in the world to give it to them to the best of my ability.

Q. 36. Might it have been possible that the actual production would vary from your estimates so much as $10,000,000 per year?—A. Quite possible. Supposing one of the principal mines stopped a day after I had made an estimate, or a fire occurred which would have detained the works for three months; that would have taken off $10,000,000 of the production in the whole year.

Q. 37. Were your estimates always made in advance of the time to which they related?—A. Occasionally. And if inquired after as to what was my opinion about the product of a mine for the coming year, I inquired very diligently about it.

Q. 38. I confine this question to those statements such as this one marked "A," which relates to past time: Is it possible there might be a discrepancy between the actual production and your figures of $10,000,000 of silver?—A. Not unless it was due to error in calculating the proportion of gold and silver so carried; the discrepancy could hardly exist.

Q. 39. What is the utmost possible discrepancy between the actual production of silver and the production of silver which you have estimated in your statement for 1876?—A. I don't know.

Q. 40. Could it be $10,000,000?—A. No, sir.

Q. 41. Could it be $5,000,000?—A. No, sir.

Q. 42. Suppose, upon a comparison of the returns of the actual product of the mines for the year 1876, which have been delivered to me for the Monetary Commission, and your estimate for the same year, there should appear a discrepancy of $5,000,000, should you attribute it to incorrectness in the returns of the mines or to error in your estimates?—A. I would certainly attribute it to errors in my estimate, because if they make statements from facts, and I make them only from conjecture, I have to submit to the reality of the facts.

Q. 43. Is it possible that there might be a difference between your

estimate and their statements of more than $5,000,000?—A. I don't believe it probable that the difference could be so much.

Q. 44. Do you think it possible?—A. Possible, because I have not had any access to the records of the mining companies, nor have I seen the bullion, because the bullion did not pass through my hands, as it did in former years.

Q. 45. In the statement contained on page 74 of the appendix to the report of the royal commission, you state "the consumption of silver for the use of arts and manufacturing purposes in the United States is calculated at about $6,000,000." From what sources did you obtain that calculation?—A. I inquired from some of the manufacturers in precious metals here in San Francisco, asking them what their estimate was of the consumption of precious metals in the arts and manufactures throughout the United States, and from the information I received from several persons I was corroborated in the idea that $6,000,000 would be about the amount.

Q. 46. You state that you were corroborated in the idea that about $6,000,000 was the amount. Whence did you obtain the idea which was so corroborated?—A. I asked several people, and they all agreed with it. I asked several men engaged in the business.

Q. 47. Did you have an idea before you asked them, about how much it was?—A. No, sir; I thought it was only about $4,000,000.

Q. 48. Did you obtain any estimate from any other source than the manufacturers in San Francisco?—A. I don't recollect.

Q. 49. How could the manufacturers of gold and silver in San Francisco convey to you an accurate estimate of the amount of silver consumed in the arts throughout the whole United States?—A. The people know about the amount of articles manufactured, and their value. It is just the same as I know such and such a commercial house does a business to such and such an amount. The silver-manufacturer here knows that such a manufacturer in Boston or New York produces about a million and a half of silver-ware; and knows how much the labor and work upon it is worth; and can come to a very correct conclusion upon the subject.

Q. 50. Did you consult only the manufacturers of solid silver-work, or of plated-ware also?—A. I don't recollect.

Q. 51. Do you know any manufacturers of plated-ware in San Francisco?—A. No, sir.

Q. 52. Did you consult any manufacturers of buttons, regalia, fire-arms, military ornaments, church-service, watch-cases, electro-plated ware, looking-glasses, nitrate of silver, silver foil, or of gold lace, so called, made of silver, or of photograph materials?—A. No, sir.

Q. 53. I would state to you that all of these classes of artisans use silver in their arts; and that since you did not consult them, your information upon this subject must have been incomplete, must it not have been?—A. I don't know; I asked the manufacturers of silver-ware alone, in San Francisco.

Q. 54. In the report of the Director of the Mint for the fiscal year ended June 30, 1876, and dated Washington, October 20, 1876, page 8, there appears an estimate of the quantity of silver employed in manufactures, amounting to $3,000,000 a year. Can you account for the discrepancy between that statement and your own estimate?—A. No, sir. Probably I was wrongly informed. I think Dr. Linderman had better sources of information.

Q. 55. I would state that the Monetary Commission has issued a circular to the consumers of gold and silver in the arts in this country,

with a view of obtaining this same information; and that replies to that circular are expected to be sent to the commission; and that the latter will therefore be in the possession of a body of information on the subject. I desire to ask you that, if in summing up the returns thus obtained, they should find that the consumption of silver in the arts in this country amounted to $12,000,000 a year instead of $6,000,000, (your estimate,) would you be disposed to consider that your estimate was erroneous?—A. Certainly. Whenever I find the facts against my estimates, I always admit I am wrong, because these estimates which I make are from the best information which I could obtain. I was in a hurry, and could not wait months to write letters and correct my data. I had to do it in twenty-four hours.

Q. 56. Then I will ask you if it is possible that your estimate may be wrong to the extent of $6,000,000 a year of silver consumed in the arts in the United States?—A. I don't think so; but I have no data to go by. I obtained my information in regard to the consumption of silver in the arts, and gave it as I had it, without knowing whether it was correct or not. It appeared to me a correct figure, because I had information from different sources. But I didn't inquire from all of the branches of art in which silver is used.

Q. 57. For answer to my question as to whether there might not be a discrepancy between the fact and your estimate of $6,000,000, you say you don't think so. Why do you not believe that the consumption of silver in the arts in the United States may be, for instance, double as much as you have estimated it?—A. Because, in my judgment, nearly every dollar's worth of silver which is manufactured in the arts is worth from three to four dollars when in the manufactured state, and I believe that the trade in manufactured silver in the United States does not amount to as much as $24,000,000 a year. The labor amounts to two or three times the value of the bullion. I don't think that the trade of the manufacturers of silver can amount to $24,000,000 a year in the United States.

Q. 58. Suppose that the returns to the Monetary Commission should show that the consumption of silver in the arts in the United States did not exceed $1,000,000 a year; would you consider your estimate more correct than these returns; or these returns more correct than your estimate?—A. I would always say I give that estimate from information; but my information may not be correct. I don't vouch for that information.

Q. 59. Would you be surprised to find that the consumption of silver in the arts in the United States does not exceed $1,000,000 per annum?—A. I should be very much surprised.

Q. 60. For what reason would you be surprised?—A. For the similar reason that I thought, in my judgment, that trade in manufactured silver did not amount to $24,000,000 a year; but I am pretty certain that it amounts to a pretty round sum; because in every family a piece of silver-ware is used, even in the middle classes. They buy a goblet or knife or present for the children. Even among the poorer classes in this country you find some silver-ware.

Q. 61. In accepting the statements given to you by the manufacturers of silver in San Francisco, were you guided by your general knowledge of the amount of silver-ware which you thought was possessed by each family in the country?—A. I was guided by the information I obtained. I asked for that information and it was given to me, and I did not form my judgment upon the subject at all.

Q. 62. Your reason appears to be this, substantially: you are guided

in your judgment by your general knowledge of the amount of silver used in each family throughout the country?—A. That is my answer. That corroborates me in the belief that the information I obtained was correct. I am not certain that when I wrote the letter alluded to, and published on page 74 of the report of the royal commission, whether I did not mean gold and silver instead of silver alone. But I am not prepared to say at this moment whether the $6,000,000 relates to silver alone, or whether it relates to gold and silver.

Q. 63. Was the letter, published in the report of the royal commission, page 74, addressed to Rothschild & Son, London, a private communication, or intended for publication?—A. I don't recollect. I think I got at that time a telegram, in which Messrs. Rothschild said, "Our government is anxious to hear about the production of precious metals in your country, which please telegraph," or something to that effect. But I never thought that anything which I wrote or addressed to them would be published. It was absolutely intended for private use.

Q. 64. You had no idea at the time that it would be published?—A. No, sir; I was greatly astonished to find it published in the report which you have now first shown to me.

Q. 65. Have you never seen this letter before in a printed form?—A. Never.

Q. 66. You were not aware that it had been printed and formed a part of the report of the royal commission?—A. No, sir.

Q. 67. Have any of your private letters on this subject been prepared for publication?—A. Never.

Q. 68. I mean the letters containing estimates of the production of previous years?—A. Never; but to my surprise I find sometimes letters of mine or parts of them published.

Q. 69. In telegraphing or writing your estimate of the production of the year 1876 to Messrs. Rothschild & Son, London, did you telegraph it in dollars, or in pounds sterling?—A. I reported it in dollars.

Q. 70. What dollar is that to which you refer in making such a report, a silver or gold dollar?—A. I assume the dollar as calculated at $1.2929 per ounce of silver of 1,000 fine.

Q. 71. Then if you made your report in such dollars, and such report made out the production of the year 1876 "$40,000,000 gold and about equal amount silver," how could you correctly add $40,000,000 silver and $40,000,000 gold?—A. The par value of the gold bars, or stamped value of the bars as silver; it is $40,000,000, assuming the ounce to be worth $1.2929.

Q. 72. Then you could not have correctly added an amount in silver dollars to an amount in gold dollars.—A. They do not have to be added; they are entirely independent.

Q. 73. Then why did you add $40,000,000 of silver and $40,000,000 of gold, if the two dollars were different?—A. The dollars were alike. It is not the market value, but the dollars were alike.

Q. 74. Suppose that you have ascertained the production of the United States in gold to be $40,000,000 gold, and the production of silver to be $40,000,000 silver, could you correctly add one sum to the other?—A. Perfectly.

Q. 75. When you state $40,000,000 gold and $40,000,000 silver, are they both stated in the same denomination—in the same kind of dollar?—A. Yes, sir.

Q. 76. Does the $1.2929 per ounce stamped on the bar represent a gold dollar?—A. It did at the time, by law.

Q. 77. Does it now represent a gold dollar?—A. It does not in trade, but it did in law, and it was always the basis of calculation.

Q. 78. When you estimated the production of 1876 at $40,000,000 gold and about an equal amount of silver, what did you mean by "equal amount"?—A. I meant $40,000,000.

Q. 79. In gold or silver dollars?—A. There was no difference between gold dollars and silver dollars.

Q. 80. Was there no difference in 1876?—A. There was no difference between gold and silver dollars in the trade parlance which I use in my business. One ounce of silver represented by law 1.2929 in gold, or, I might have said, instead of $40,000,000 of silver, so many ounces of silver, valued at $1.2929 per ounce; but it would have come to the same, calculating it at $1.2929. I might have expressed it in ounces, or in the assumed value of $1.2929 per ounce.

Q. 81. Suppose you value the $40,000,000 estimated production of silver in 1876 in gold dollars, how much would it amount to? The same sum, or a greater or less sum?—A. I don't recollect the price of silver on that day.

Q. 82. Would it amount to a greater or less sum, or the same sum?—A. It would amount to a less sum, considering the discount. But that would not have led, at the time, to a correct understanding of the thing. I had to give the exact amount, either in ounces, or in dollars at an assumed, agreed, and accepted price of $1.2929. I could not predict whether the silver market would be at 5 per cent. premium or 20 per cent. discount.

Q. 83. Does the Mint of the United States stamp fine silver at $1.2929 per ounce?—A. Yes, sir.

Q. 84. And therefore is it the valuation of the silver in gold dollars?—A. Yes; and not the market value.

Q. 85. Can you inform me why the ounce of silver is stamped at $1.2929?—A. That is the old Mint value.

Q. 86. Does the Mint pay that for it now?—A. I don't know.

Q. 87. Did it formerly pay that for it?—A. Yes, sir; more. The Mint paid 4 per cent. premium on that price.

Q. 88. Then why did it stamp it at that if it paid more for it?—A. You will have to refer to the United States laws and the Mint regulations.

Q. 89. You are not prepared to give the reason why the Mint stamps each ounce of silver at $1.2929?—A. I know it was the law of the United States.

A. GANSL.

APPENDIX O.

LETTER FROM THE CHAIRMAN OF THE COMMISSION TO THE PRINCIPAL OFFICERS OF THE VARIOUS MINING COMPANIES.

NEW YORK, *December*. 2, 1876.

DEAR SIR: The Congress of the United States, at its last session, created a Select Commission to investigate the silver question and other questions cognate thereto, and empowered such Commission to take testimony thereon, and instructed them to report on or before the 15th of January, 1877.

In pursuance of these provisions the Commission have examined, orally,

many witnesses, who have been summoned before them, and also many others, both in this country and Europe, through correspondence. They have also sought information from such books, official reports, papers, and authorities as were likely to throw light on the questions submitted to them, and have made such progress in their investigations that little more remains to be done, previous to the preparation of their report, than to investigate the facts relative to the production of the precious metals in the United States, and particularly from the Comstock Lode.

As the case stands at present, these facts are shrouded in such uncertainty that a royal commission, which recently sat in England on the same subject, found it impossible to reconcile the discrepancies in the accounts and reports submitted to them, or to arrive at any definite or satisfactory conclusion relative to the production of silver in this country.

The importance of this branch of the investigation is such that, until it is most thoroughly and satisfactorily explored, it will be very difficult to reach a practical settlement of the paramount question intrusted to the Commission—the question whether silver shall again, or not, form a portion of the unlimited legal-tender money of the United States.

It is a question of the gravest importance to the country, and it is not exaggeration to say that perhaps more than any other it underlies the conditions of our future industrial and commercial development, and still more emphatically and gravely is it a question which affects the future prosperity of the Pacific coast States and Territories.

The comprehensive character of the inquiries intrusted to the Commission has so occupied the limited time allowed them that they have found it impossible to carry out their original intentions of visiting the Pacific coast in full numbers, and the session of Congress now so close upon us demands the personal attendance of the congressional members of the Commission in Washington. Under these circumstances it has been determined to intrust to Hon. Alexander Del Mar, statistician of the commission, formerly Director of the Bureau of Statistics of the United States, the task of collecting these most important data. I need hardly say that Mr. Del Mar is peculiarly well fitted both by experience and research for the successful performance of this duty. He is well known throughout the country as a careful observer, and enjoys also a professional reputation in Europe.

It is essential to the successful prosecution of his labors that Mr. Del Mar should have access to the books of the various mining companies, in so far as they relate to the production of the mines, as, at last, the value of his observation will depend mainly on the completeness of the information you may be able to afford him. I warmly commend him on behalf of the Commission to your polite and intelligent assistance. I doubt not that the thorough knowledge which you possess on this subject, and the reliable information at your command, if kindly placed at Mr. Del Mar's disposal, will enable a report to be compiled which will prove of great value, not only to the silver-producing States, but also to the whole country and the world at large.

A letter similar to this has been addressed to the various persons connected with the other principal mines throughout the Pacific States.

Mr. Del Mar is required to ascertain:

The history of the mines;

The extent, plans, and mechanical means used in working them;

The localities whence the ore has been and is being extracted;

The number of distinct shutes or chimneys of ore;

The shape, length, width, and depth of each shute or chimney;

The depth from the surface at which each one appeared;
The cubical area excavated and the number of tons of ore extracted from each one;
The value of gold and silver, respectively, extracted from each one;
The yield of each mine from time to time in gold and silver, respectively, as shown by the books of the mining companies;
The present condition of the lowest or bottom workings in each and all of the mines;
And generally all information which can throw light on the past history of the mines, their present workings, and probable future development.

I am, dear sir, very respectfully, your obedient servant,

JNO. P. JONES,
Chairman United States Monetary Commission.

WORLD'S PRODUCTION OF GOLD AND SILVER.

MINUTE ON THE PRODUCTION OF GOLD AND SILVER IN THE WESTERN WORLD, FROM THE DISCOVERY OF AMERICA TO THE PRESENT TIME.

By Alex. Del Mar.

The following tables exhibit:

I. The estimated production of gold and silver, separately, in America, from 1492 to 1800, inclusive.

II. The estimated production of silver in the Western World, (America, Europe, and Africa,) annually, from 1801 to the present time.

III. The estimated production of gold in the Western World, (America, Europe, and Africa,) annually, from 1801 to the present time.

TABLE I.—*Showing, chiefly by decades, the estimated average production of gold and silver yielded by the mines of America from the Discovery to the beginning of the nineteenth century. From the works of Baron von Humboldt, Abbé Raynal, and Ward, and Ex. Doc.* 117, *1st session 21st Congress, U. S. A.*

Sums in Spanish piasters or dollars.

Average annual production.

Period.	Gold.	Silver.	Period.	Gold.	Silver.
1492 to 1545.....	$1,700,000	$600,000	1681 to 1690.....	$2,800,000	$12,200,000
a 1546 to 1555....	3,000,000	*a* 17,000,000	1691 to 1700.....	7,500,000	11,500,000
1556 to 1570.....	2,700,000	7,300,000	*c* 1701 to 1710.....	*c* 12,000,000	10,000,000
1571 to 1580.....	2,000,000	7,000,000	1711 to 1720.....	12,000,000	11,000,000
b 1581 to 1590.....	3,000,000	*b* 14,000,000	1721 to 1730.....	12,000,000	12,000,000
1591 to 1600.....	3,000,000	14,000,000	1731 to 1740.....	12,000,000	13,000,000
1601 to 1610.....	2,500,000	11,500,000	1741 to 1750.....	12,000,000	16,000,000
1611 to 1620.....	2,500,000	11,500,000	*d* 1751 to 1760.....	11,000,000	*d* 19,000,000
1621 to 1630.....	2,800,000	12,200,000	1761 to 1770.....	10,000,000	19,000,000
1631 to 1640.....	3,000,000	13,000,000	*e* 1771 to 1780.....	10,000,000	*e* 25,000,000
1641 to 1650.....	3,000,000	13,000,000	1781 to 1790.....	10,000,000	28,000,000
1651 to 1660.....	2,800,000	12,200,000	1791 to 1800.....	*f* 10,000,000	*g* 32,000,000
1661 to 1670.....	2,800,000	12,200,000			
1671 to 1680.....	2,800,000	12,200,000	Totals, 309 years.	1,872,300,000	4,260,000,000

NOTES.—*a* Discovery of Potosi. *b* Amalgamation process employed by Medina in 1567. Consult Tooke, vi, 358. *c* Brazilian gold-washings opened in 1695. *d* Exploration of Biscaina and Sombrerete, Mexico. *e* Exploration of Valenciana, Mexico. *f* Ex. Doc. 117, *note*. *g* Brogniart.

REMARKS ON STATISTICS OF GOLD AND SILVER PRODUCTION PREVIOUS TO 1800.

According to Mr. William Jacob, the gold and silver produced in America, Europe, and Africa and supplied to the commercial world from 1492 to 1809 was $6,803,000,000. Of this amount he credits Europe and Africa with $685,000,000, leaving $6,118,000,000 for the production of America alone. Deducting $416,000,000 for the production of the nine years 1801–1809, inclusive, would leave $5,708,000,000 for the production

of America during the period 1492–1800, inclusive. The $6,803,000,000 he disposes of as follows:

Exported to Asia	$1,995,000,000
Converted into articles of use and ornament	2,200,000,000
Lost by abrasion, casualties, &c	875,000,000
Left for coin in Europe and America	1,733,000,000

This sum, added to the estimated stock of coin on hand in Europe in 1492, viz, $167,000,000, amounts to $1,900,000,000, which is his estimate of the stock of coin in the Western World in the year 1809.

Mr. Danson's estimate of the production of the precious metals in America during the period 1492–1803 is $5,610,000,000. Deducting $128,000,000 for the production of the three years 1801–1803, would leave $5,482,000,000 for the production of America during the period 1492–1800, inclusive.

The quotient of Table I given above is $6,132,300,000. It is, therefore, $424,300,000 in excess of Mr. Jacob's estimate, and $650,300,000 in excess of Mr. Danson's. While Mr. Danson's estimate for this period is probably nearest the truth, on account of a general tendency to exaggerate in such matters, the figures given above are preferred, because they show the production by details of gold and silver separately, and by decades of years, which is not the case with either Jacob's or Danson's tables. Moreover, the differences noted are not important in a calculation involving such vast sums.

TABLE II.—*Showing the estimated production of silver in the Western World, (America, Europe, and Africa,) annually, since the commencement of the nineteenth century.*

The figures for the years 1800 to 1829 inclusive are constructed on the following basis: The amounts coined at all the legal mints of Mexico, brought to the royal mint of Potosi, and raised in and exported from Coquimbo, are put together and to the quotient ten million dollars are added each year for the conjectured production of all other countries in Europe and America. This conjecture is warranted by Sir Hector Hay and employed in his tables of production.

The figures for the years 1830 to 1851 inclusive are from various compilations, indicated in the footnotes. When not otherwise indicated, they are from Danson's compilation, London Statistical Journal, xiv, 23.

The figures for the years 1852 to 1874 inclusive are from Sir Hector Hay.

The figures for 1875 and 1876 are compiled by the present writer, and for 1877 estimated.

Sums in millions of dollars.

Year.	Production.	Year.	Production.	Year.	Production.
1800	§32.8	1811	26.4	1822	22.7
1801	§30.9	1812	21.3	1823	21.0
1802	§31.4	1813	22.7	1824	21.3
1803	35.8	1814	22.7	1825	20.5
1804	39.5	1815	18.6	1826	20.2
1805	39.2	1816	21.3	1827	21.6
1806	36.8	1817	20.8	1828	21.5
1807	34.4	1818	24.1	1829	22.8
1808	33.4	1819	24.4		
1809	37.5	1820	22.6	Total, 30 years	799.1
1810	31.4	1821	19.5		

Year.	Production.	Year.	Production.	Year.	Production.
1830	22.0	1838	20.0	1846	*31.5
1831	22.0	1839	22.0	1847	34.0
1832	21.0	1840	24.0	1848	39.0
1833	21.0	1841	25.0	1849	38.0
1834	21.0	1842	25.5	1850	†43.9
1835	20.0	1843	28.0	1851	‡40.5
1836	20.0	1844	32.0		
1837	20.0	1845	30.0	Total, 22 years	600.4

*Birkmyre. †Phillips. ‡Journal des Economistes. §Brogniart, *de mineralogie.*

TABLE II.—*Showing the estimated production of silver, &c.*—Continued.

Year.	Production.	Year.	Production.	Year.	Production.
1852	40.6	1862	45.2	1872	65.2
1853	40.6	1863	47.2	1873	70.2
1854	40.6	1864	50.7	1874	71.5
1855	40.6	1865	52.0	1875	70.0
1856	40.7	1866	50.7	1876	76.0
1857	40.7	1867	54.2	1877	70.0
1858	40.7	1868	50.2		
1859	40.8	1869	47.3	Total, 26 years	1,341.8
1860	40.8	1870	51.6		
1861	42.7	1871	61.0		

REMARKS ON STATISTICS OF SILVER PRODUCTION SINCE 1800.

According to the preceding table the production of silver throughout the Western World during the period 1800–1829 was $799,100,000, and during the period 1830–1851, inclusive, $600,400,000. Deducting $122,400,000, for the three years 1849–1851, would leave $1,277,100,000 for the period 1800–1848, inclusive. For the period 1803–1848 Mr. Danson estimates the American production of silver at $1,245,000,000, and Tooke the European and African production at $150,000,000. If to these sums there be added $100,000,000 for the production of the three years 1801–1803, the total sum of production, 1800–1848 inclusive, according to Danson and Tooke, would be $1,495,000,000; but for reasons similar to those adverted to in a subsequent part of this minute, relating to the gold production since 1800, Mr. Danson's estimates of the American production of silver are regarded as excessive, and the figures of the foregoing table are preferred.

TABLE III.—*Showing the estimated production of gold in the Western World, (America, Europe, and Africa,) annually, since the commencement of the nineteenth century.*

[The figures for the years 1800 to 1847, inclusive, are derived, by estimate, from the following authorities: Humboldt, Raynal, Duport, Brogniart, Ward, Jacob, Danson's compilation, and Tooke's History Prices, vol. vi. For this period the statistics are very unsatisfactory, and are more reliable by groups of ten years than for any single year taken by itself. The figures for the years 1848 to 1876, inclusive, are from the authorities quoted in the foot-notes.]

Sums in millions of dollars.

Year.	Production.	Year.	Production.	Year.	Production.
1800	e10.0	1816	6.0	1832	12.0
1801	a13.0	1817	6.0	1833	12.0
1802	9.0	1818	7.0	1834	12.0
1803	8.0	1819	b9.0	1835	15.0
1804	11.0	1820	8.0	1836	15.0
1805	10.0	1821	10.0	1837	15.0
1806	10.0	1822	9.0	1838	15.0
1807	10.0	1823	9.0	1839	15.0
1808	10.0	1824	10.0	1840	20.0
1809	10.0	1825	11.0	1841	20.0
1810	10.0	1826	11.0	1842	20.0
1811	10.0	1827	10.0	1843	20.0
1812	6.0	1828	10.0	1844	20.0
1813	7.0	1829	c13.0	1845	20.0
1814	7.0	1830	13.0	1846	d29.2
1815	6.0	1831	12.0	1847	40.0
Total 48 years					429.2

a Birkmyre. *b* Russian gold-washings opened. *c* Siberian washings opened.
d Williamson gives for the yield of Russian washings in 1846 $17,635,330. *e* Brogniart.

Year.	Production.	Year.	Production.	Year.	Production.
1848	*a*67.5	1858	*d*144.6	1868	*d*109.7
1849	87.0	1859	*d*144.9	1869	*d*106.2
1850	*b*93.2	1860	*d*119.3	1870	*d*106.9
1851	*a*120.0	1861	*d*113.8	1871	*d*107.0
1852	*a*193.7	1862	*d*107.8	1872	*d*99.6
1853	*c*155.0	1863	*d*107.0	1873	*d*97.2
1854	*c*127.0	1864	*d*113.0	1874	*d*90.9
1855	*c*135.0	1865	*e*130.7	1875	*d*97.5
1856	*c*147.6	1866	*d*122.2	1876	90.0
1857	*c*133.3	1867	*d*114.0		
Total				29 years	3381.5

a Westminster Review, January, 1876. *b* McCulloch. *c* Journal des Economistes. *d* Sir Hector Hay. *e* Blake.

REMARKS ON STATISTICS OF GOLD PRODUCTION SINCE 1800.

It should be stated in reference to the period of forty-eight years, 1800 to 1847 inclusive, which foots up $429,200,000, that this sum is considerably less than that assigned by Danson to America alone. His figure for the period of forty-five years, 1804–1848, is $710,897,057. If the production for the years 1800–1803, namely, $40,000,000, be deducted from, and the figures for the year 1848, namely, $67,500,000, be added to, the total shown in the above table, so as to make it agree with the period shown in Danson's, the total will only amount to $446,700,000, or to $264,197,057 less than Danson's.

An analysis of the latter, however, will hardly stand the test of criticism, and the figures are evidently excessive. For example, on the strength of five years' custom-house returns of exports of gold from Buenos Ayres during the period 1822–1826, Mr. Danson assumes the same average, namely, $359,181 per annum, for the entire period, 1809 to 1848 inclusive, and adds—quite gratuitously—266⅔ per cent. to this for smuggling to make a total from Buenos Ayres of $52,679,880. On the strength of an incidental remark by a British consul, in 1831, to the effect that the exports of specie from Montevideo in 1803 and 1804 may be taken as the ordinary shipments, he makes out a total export from that port during the period 1809–1848 of $200,000,000, of which he arbitrarily assumes 47 per cent., or $94,000,000, to have been in gold. These two results, together with $24,011,410 determined, upon a little better basis to have been otherwise produced, in Buenos Ayres, give a grand total of $170,691,290 as the production of gold in that country during the period 1809–1848, whereas *one-tenth* of the amount would probably be much nearer the truth.

In a similar manner, on the sole basis of returns of $44,125,746 of gold coined at the mints of Bogota and Popayan, in Columbia, during the period 1804–1829, which gold is believed to have consisted entirely of old coin and plate, he makes out a production of gold for that country during the period 1804–1848 of $204,255,328. Not to pursue these palpable exaggerations any further, it need only be stated that while the statistics for this period are very unsatisfactory, the figures of Humboldt, Ward, and Jacob are a sufficient warrant for keeping the average production of the period under $10,000,000 a year until the opening of the Russian gold-washings, and then at very little over $10,000,000 a year until these washings began to make a comparatively important addition to the then very limited supplies of gold to the world; and this did not occur until after the year 1840, when for the first time the Russian product amounted to as much as $1,000,000 a year.

Jacob's estimate of the average production of gold during the period 1809–1829 is $7,990,000 per annum, and this includes $3,600,000 per annum for Europe and Asia, leaving but $4,390,000 per annum for all America.

A compilation published in Ex. Doc. 117, 1st session 21st Congress, 1830, estimates the annual production of gold in the world from 1801 to 1810 at $10,000,000 a year, and from 1811 to 1825 at $7,700,000 a year.

From these evidences and the details contained in Humboldt, Jacob, Ward, Tooke, etc., it is believed that the figures of the above table are approximately correct, at least for any group of ten years, and, if at all wrong, that they are excessive. It will be observed that the lowest point of production is assigned to about the year 1816. McCulloch differs from this in ascribing the lowest point to about the year 1829; but there is reason to believe that in this respect, and because he judged rather from the receipts of new metal in Europe than from the production at the mines, that eminent author placed the date of the minimum production a few years behind the true time.

The general results of the foregoing tables are as follows:

Sums in millions of dollars.

	Silver.	Gold.
Production of America during the period 1492–1800	4260.0	1872.3
Production of America, Europe, and Africa supplied to the Western World during the period 1801–1876	2671.3	3381.5
Totals	6931.3	5253.8

or six billion nine hundred and thirty-one million three hundred thousand dollars in silver, and five billion two hundred and fifty-three million eight hundred thousand dollars in gold.

RELATIVE VALUE OF GOLD AND SILVER.

MINUTE ON THE MARKET RATIO BETWEEN GOLD AND SILVER IN LONDON, ENGLAND, FROM 1760 TO THE PRESENT TIME.

By Alex. Del Mar.

The time covered by this Minute is limited to the year 1760, for the reason that no annual average quotations at one place are attainable for anterior dates, and also because of the want of any comprehensive summary of the mint-codes of leading commercial countries for an earlier period.

A legal ratio between the precious metals adopted in an important country, if coupled with full legal tender and unrestricted coinage at brassage or a moderate seigniorage, constitutes, in effect, a standing offer to purchase all the current supplies of one metal at a fixed price in the other.*

Hence, the free-mint prices of important countries—that is to say of countries whose practical ability to purchase metal is equal to, and whose mints are capable of coining, all that may be offered—control the market ratio, and, except so far as modified by demand for the arts, for token-coinage, and for Asia, control it almost exclusively. It follows that the free-mint prices, when the mints are competent to deal with the supplies, make the market ratio.

It is, therefore, essential to the understanding of a table of fluctuations between the metals, to know what were the legal ratios in, or standing prices for the metals offered by, leading countries, and the capacity of their mints during the period covered by such fluctuations.

The following is a rough summary of these details relating to France, England, and the United States, the two former countries, with Spain and her colonies, having been the principal double-standard countries during the period under review. Reliable details relating to the Spanish and German coinage systems of the last century are not within reach:

France.—The optional standard at 14½ prevailed up to the year 1785, when it was changed to 15½. This ratio was ratified in 1803, and is the one now existing. The conditions of coinage up to 1803 are not set forth in any of the papers submitted to the commission. In 1803 the mints were thrown open unreservedly to both metals at the charge of brassage. In

* This price marks the limit to profitable mining or production, and, the latter being thus limited, it is impossible to say what the cost of producing either metal would be if the restriction were modified, that is to say, if the legal price or ratio were changed

1873 the mints were closed to silver. The capacity of the French mint, as indicated by the greatest coinage of any single year, was as follows: Gold, year 1859, fr., 702,697,690; silver, year 1811, fr., 256,399,040.

England.—The optional standard at 15.2 prevailed from 1717 to 1816, when it was changed to gold, which is the standard now existing. The coinage throughout this period has always been called "free," but in point of fact it costs a trifle more than the French charges of brassage.* In 1797 the mint was closed to free silver. The capacity of the British mint, as indicated by the greatest coinage of any single year, was as follows: Gold, year 1853, £11,952,391; silver, year 1817, £2,436,298.

United States.—From and before 1760 to 1792 the silver standard prevailed in the American States, but no silver was coined by the government until 1794. From 1792 to 1874, the optional standard prevailed—from 1792 to 1837 at 15, and from 1837 to 1874 at 16; coinage unrestricted for both metals at charge of brassage up to 1873, when the mints were closed to silver. The capacity of the American mints, as indicated by the greatest coinage of any single year, was as follows: Gold, year 1851, $62,614,493; silver, year 1876, $19,126,503.

It may be added that the American mints can easily be rendered capable of coining the entire current production of the world, and as much may be said, perhaps, of the French and British mints.

The following tables exhibit the average annual market ratio between gold and silver from 1760 to 1876 inclusive, and the average monthly ratio from 1873 to the present time.

Table showing the average annual ratio of value between gold and silver—expressed, as is customary, in quantities of pure silver to one of gold—in the London market from 1760 to 1876, inclusive. Up to 1829, from Ex. Doc. 117, first session Twenty-first Congress; from 1833 to 1875, from Pixley & Abell's circulars; for 1876, from the weekly gold averages for standard silver in the London Economist.

1760	14.29	1790	15.01	1819	15.82	1848	15.85
1761	13.94	1791	14.95	1820	15.71	1849	15.78
1762	14.63	1792	14.43	1821	15.98	1850	15.70
1763	14.71	1793	15.01	1822	15.91	1851	15.46
1764	14.91	1794	15.32	1823	15.91	1852	15.38
1765	14.69	1795	14.77	1824	15.64	1853	15.33
1766	14.41	1796	14.77	1825	15.69	1854	15.33
1767	14.45	1797	15.45	1826	15.69	1855	15.38
1768	14.58	1798	15.45	1827	15.77	1856	15.38
1769	14.45	1799	14.29	1828	15.77	1857	15.27
1770	14.35	1800	14.81	1829	15.95	1858	15.38
1771	14.36	1801	14.47	1830	15.73†	1859	15.19
1772	14.19	1802	15.23	1831	15.73†	1860	15.28
1773	14.73	1803	14.47	1832	15.73†	1861	15.50
1774	15.05	1804	14.67	1833	15.93	1862	15.35
1775	14.62	1805	15.14	1834	15.73	1863	15.36
1776	14.34	1806	14.25	1835	15 79	1864	15.36
1777	14.04	1807	14.46	1836	15.71	1865	15.44
1778	14.34	1808	14.79	1837	15.83	1866	15.42
1779	14.89	1809	16.25	1838	15.85	1867	15.57
1780	14.43	1810	16.15	1839	15.61	1868	15.58
1781	13.33	1811	15.72	1840	15.61	1869	15.60
1782	13.54	1812	15.04	1841	15.70	1870	15.57
1783	13.78	1813	14.53	1842	15.86	1871	15.58
1784	14.90	1814	15.85	1843	15.93	1872	15.63
1785	15.21	1815	16.30	1844	15.85	1873	15.92
1786	14.89	1816	13.64	1845	15.91	1874	16.16
1787	14.83	1817	15.58	1846	15.89	1875	16.69
1788	14.71	1818	15.42	1847	15.79	1876	17.83
1789	14.89						

* See p. 230 of the present report.

† Report of the Director of the United States Mint, 1876, page 47. No other authority has been found for the ratios given for the years 1830, 1831, and 1832.

Table showing the average monthly ratio of value between gold and silver—expressed, as is customary, in quantities of pure silver to one of gold—in the London market during the years 1873 to 1876, inclusive, and the first three months of 1877, calculated from the weekly gold quotations of standard silver in the London Economist.

Month.	1873.	1874.	1875.	1876.	1877.
January	15.76	16.19	16.45	17.08	16.36
February	15.76	16.05	16.41	17.66	16.50
March	15.77	15.86	16.50	17.82	17.22
April	15.78	16.01	16.47	17.57	.....
May	15.81	16.07	16.55	17.81	.....
June	15.87	16.05	16.88	18.21	.....
July	15.89	16.15	16.97	19.26	.....
August	15.98	16.26	16.92	18.11	.....
September	15.99	16.31	16.74	18.25	.....
October	16.05	16.34	16.74	17.95	.....
November	16.26	16.26	16.75	17.49	.....
December	16.17	16.40	16.89	16.71	.....
Average	15.92	16.16	16.69	17.83	.....

It will be observed from the tables in this Minute and the tables relating to the flow of silver to India, (p. 81,) that the principal changes of ratio between gold and silver occurred about the time of the alteration of the mint ratios in important countries, or else when extraordinary vicissitudes occurred in the flow of the metal to Asia or the supplies of gold to Europe.

POPULATION AND SPECIE.

MINUTE ON POPULATION AND SPECIE IN THE WESTERN WORLD.

BY ALEX DEL MAR.

PART I.—POPULATION.

The first enumeration of the inhabitants of a country, since the censuses of the Ancient Romans, appears to have taken place in Moorish Spain, in A. D. 1380, and the second in the Spanish colonial possessions in America. For details of the latter see Sir Arthur Help's Conquerors of America, and Baron von Humboldt's New Spain.

A census of the population of Spain was taken A. D. 1594. The total numbers were 1,641,358 households and 8,206,791 persons. The details by provinces and divisions will be found in the London Statistical Journal, xxiii, 152.

Many enumerations were made in the American colonies, Spanish English, and French.

There were fifteen different enumerations and estimates of population made in New York from 1658 to 1774; six in Rhode Island between 1708 and 1774. Holmes's Annals estimated the population of the existing eleven colonies in 1701 at 262,000; in 1749, of the twelve colonies, at 1,046,000; about 1775, thirteen colonies, at 2,803,000. On December 26, 1775, Congress recommended the local authorities of each colony to ascertain, by the most impartial and effectual means in their power, the number of inhabitants in each, "taking care that the lists be authenticated by the oaths of the persons intrusted with this service, * * and to lay the same before Congress." The documents of Congress for 1775 show an estimated population of over 3,000,000. The ninth of the Articles of Confederation, years 1777–'81, based the quota of land forces from each colony on an enumeration to be made of its white inhabitants. Under this authority Congress, December 11, 1781, ordered an enumeration to be made. In 1783–'86 the eighth article was changed so as to apportion the expenses of common defense and public welfare among the States in the same manner as representatives and direct taxes are now apportioned. Under this article a census was taken in 1786.

The first census taken in northern Europe was in Sweden in the year 1748. This census was repeated triennially to the year 1775, and afterward quinquennially. Dr. Price, the distinguished mathematician, transmitted an account of some of these enumerations to Dr. Benjamin Franklin in 1769.

In 1789 the Constitution of the United States provided that an enumeration of the inhabitants should be made decennially, and in 1790 the first census under this Constitution was taken.

Several reasons appear to have prevented so important a function from being exercised in Europe at an earlier period.

1st. The women, children, and slaves of ancient and medieval countries were regarded as socially too unimportant to be worth reckoning, and this regard was extended to the peasantry of medieval and modern Europe, until the social reforms which took place near the close of the last century, and at subsequent dates, freed them from feudal service.

2d. At one period of the Roman Empire, the slaves, who, it will be remembered, were of white races, were extremely numerous; and no general enumeration of them was allowed, "lest it should be discovered how few the freemen were in comparison." Allison, Hist. Europe, i, 32, *note*, from Tacitus.

3d. A superstition was long current against counting the numbers of peoples. This is supposed to have originated from a passage in the Scriptures.

4th. The fear of military conscription and governmental taxation produced an aversion on the part of the peasantry, and an opposition on the part of the feudal lords, to a counting of the people.

5th. It appears that the population of medieval Europe steadily declined in numbers from the Augustan period of the Roman Empire until the discovery of America. It is therefore but natural that the rulers of countries should have neglected to count their subjects, for fear of exposing the diminution of their military forces.

Although there were no regular censuses, there exist numerous contemporaneous estimates of the numbers of the inhabitants of various European countries at various dates; also many subsequent estimates based on the extent of land known to have been cultivated, and upon other sound evidence.

Without going into a detailed account of the reasons which have governed the acceptance of certain estimates in preference to others, or which have supplied some wanting link in the tediously long chain of evidence which has had to be consulted in order to cover so comprehensive a subject, the results of all the estimates and censuses of the population of Europe and its colonies, shown in the various authorities known, will now be adduced in tabular form.

It should be stated that Europe is taken as having always extended to its present eastern line of division with Asia.

Population of Europe at various periods.

Year.	Population.	Authority.
B. C. 27	60,000,000	Gibbon and Merivale, revised by allowing for Britain, Scandinavia, Russia, &c.
A. D. 1492	40,000,000	New York Independent, March 11, 1875, revised.
A. D. 1675	79,000,000	William Jacob, History of Precious Metals.
A. D. 1700	87,000,000	Jacob
A. D. 1760	106,000,000	Voltaire, Histoire Generale, quoted in Gibbon, i, 75.
A. D. 1808	182,000,000	Baron von Humboldt, New Spain, vol. i, p. 276.
A. D. 1828	217,700,000	Balbi.
A. D. 1832	219,344,116	Almanach de Gotha.
A. D. 1839	232,000,000	McCulloch.
A. D. 1850	264,000,000	Putnam's Encyclopædia.
A. D. 1860	279,000,000	London Statistical Journal.
A. D. 1870	302,000,000	Behm and Wagner, 1872.
A. D. 1877	315,000,000	Census and Estimates.

European (white) population of the world at various periods, including colonies and colonies now independent.

Year.	Population.	Year.	Population.
B. C. 27	60,000,000	A. D. 1700	90,000,000
A. D. 1492	40,000,000	A. D. 1776	110,000,000
A. D. 1675	86,000,000	A. D. 1877	388,000,000

From these tables it will be observed that the population of Europe diminished from the Augustan era to the discovery of America fully one-third, and that since the discovery to the present time it has increased, in Europe proper, eightfold, while throughout the world, including the white population of the American States and colonies, it has increased tenfold. The average annual rate of increment of the population of Europe proper, from 1860 to 1870, was about eight-tenths of one per cent.

PART II.—SPECIE.

The first computation of the stock of specie in the Western World was made by Gregory King in 1696, and forms part of the sixth chapter of his "National and Political Observations and Conclusions." In this computation, which is spoken of in the highest terms by Chalmers and Tooke, King estimates the stock of specie in the Western World in the year 1488 at £45,000,000. William Jacob, in his History of the Precious Metals, published about the year 1830, estimates the stock of specie in the Western World in the year 1492 at £33,342,000. As Jacob had before him the very elaborate data of Baron von Humboldt on the subject, it may be assumed that his estimate is approximately correct.

For the year 1688, King estimated the stock of specie in Europe at £225,000,000, while Jacob estimates it at £415,000,000 for the year 1700. Upon the basis of Jacob's computation the stock in the year 1675 would have been about £275,000,000, which is a substantial agreement with King's figure for 1688. The figure of £250,000,000 has been adopted as a mean.

For the year 1700 Tooke estimates the stock of specie at £297,000,000.

For the year 1776 we have no estimate; but upon the basis of Humboldt's and Jacob's figures we arrive at the following approximate result:

Stock of specie in 1700		£297,000,000
American production during the following 76 years	£78,000,000	
European and African production, 76 years	64,800,000	
	142,800,000	
Forty per cent. shipped to Asia	57,100,000	
	85,700,000	
Two-thirds of the remainder converted into plate	57,100,000	
		28,600,000
		325,600,000
Loss of original and accumulated stock by abrasion and casualties $\frac{1}{120}$th part annually, according to Jacob		50,600,000
Estimated stock in 1776		275,000,000

The fact that this figure is less than that determined for the year 1700 may lead to a doubt of its correctness; but it seems to be well authenticated that until the development of the great silver lodes of Biscaina, Sombrerete, and Valenciana, in Mexico, toward the end of the last century, the supplies of the precious metals were inadequate to the demands of commerce, and that the stock of specie in Europe and America declined.

Necker, who wrote in 1775, estimated the stock of all Europe at only £183,673,440; but this estimate was too low, while that of Forbonnais, who estimated it at £306,122,400 was, according to von Humboldt, too high.

We have no estimate for the year 1808, but Jacob's estimate for 1810 will probably answer all the purposes of the present comparison. It was £380,000,000.

In a similar manner Jacob's estimate for 1829, viz, £313,000,000, is employed for comparison with the population of 1828. This estimate shows another falling off in the stock of specie as compared with an antecedent period; but there is so little doubt of its correctness that all writers upon the subject agree to the fact.

For the years following 1828 the estimates of the stock of specie are so numerous that it has only been deemed necessary to select those of the best credited authorities and refer to them in the table which is now adduced.

Table showing the estimated population and stock of specie in the Western World at the various dates mentioned; also the amount of specie per capita.

Year.	Population.	Gold and silver used as money.	Approximate amount per capita.
B. C. 27	60, 000, 000	*a* $1, 790, 000, 000	*a* $30
A. D. 1492	40, 000, 000	170, 000, 000	4
1675	85, 000, 000	1, 250, 000, 000	15
1700	90, 000, 000	1, 485, 000, 000	16½
1776	110, 000, 000	1, 375, 000, 000	12
1808	200, 000, 000	1, 900, 000, 000	9½
1828	240, 000, 000	1, 565, 000, 000	6½
1838	260, 000, 000	*b* 1, 350, 000, 000	5
1859	265, 000, 000	*c* 1, 420, 000, 000	5
1850	300, 000, 000	*d* 2, 500, 000, 000	8
1860	330, 000, 000	*b* 2, 800, 000, 000	8½
1870	370, 000, 000	*e* 3, 600, 000, 000	9¾
1877	390, 000, 000	*b* 3, 700, 000, 000	9½

a Jacob. Exceedingly doubtful. *b* Estimates. *c* Storch. *d* McCulloch. *e* Seyd for 1872.

As regards the estimates of population and specie during the Roman imperial era, while too much reliance should not be placed upon superficial calculations relating to so remote a period, it can hardly be doubted that specie was more plentiful at that period than it afterward became until the discovery of America. A comparison of the prices of commodities at the two periods appears to substantiate this inference.

With reference to the period subsequent to the Discovery, it will be observed that the Western World started with a stock of specie amounting to about $4 per head of population, and that this allowance continued to increase until the opening of the eighteenth century, when it amounted to $16.50 per capita.

During this period maritime discovery and commercial adventure

were stimulated to the extremest limits. The seas and bays of the entire world were explored, commerce was extended into the Americas, Africa, India, China, Japan, and the islands of the South Sea, and European colonies were founded all over the world.

The social organism was also stirred into the greatest activity. This was the period of the Revolution, Habeas Corpus act, and Bill of Rights in England; of the numerous risings of the peasantry, the Ediet of Nantes, and the Fronde in France; of the republic in the Netherlands; of the Protest and Thirty Years' War in Germany; and of the Reformation throughout Western Europe.

Concurrent with the diminution of specie from $16.50 per capita in 1700 to $12 per capita in 1776, $9.50 per capita in 1808, $6.50 per capita in 1828, and $5 per capita in 1839, the commercial and social history of the world exhibited all the marks of an arrested development and perturbation of the populations.

This was the period during which all the national debts of the world arose; when France, England, Russia, Germany, Papal Rome, the American colonies, the United States, Brazil, and many other countries suspended specie payments, and when Europe and America were almost constantly shaken with insurrections and wars.

It was the period of the American and French revolutions; of the separation of Mexico and the South American colonies from Spain; of the chartist agitation and riots in England, and of popular commotion in all countries.

Assignats, wild-cat banks, ruinous paper-speculations, and the open repudiation of their debts by great corporations and States, were the financial characteristics of the period.

These facts are adduced in this place not by way of inference or to establish any theory. They may have had no connection with the condition of the currency, or, instead of resulting from it, they may have contributed to bring it about.

They are merely suggested as possibly having some connection with its movement and the undisputed effects which would follow such a movement, as a universal and continued rise or fall in prices and increase or decrease in the relative value of land and other vested property.

The estimate of $3,700,000,000 for the stock of specie in the Western World at the present time is based upon that of Seyd for 1872. In another computation Seyd estimates the amount of full legal-tender silver current in the Western World previous to the Franco-German war at £255,000,000, or, say, $1,275,000,000. The demonetization of silver now going on may, if completed, reduce the stock of legal-tender specie in the Western World to about $3,000,000,000, or little more than $7.50 per capita—a fall of one-fourth from the stock of 1870, and of one-fifth from that of to-day.

DEMONETIZATION OF SILVER IN GERMANY.

MINUTE ON THE DEMONETIZATION OF SILVER IN THE GERMAN EMPIRE.

By Alex. Del Mar.

The German Empire dates from April 16, 1871.

The lawful or legal-tender money of most of the states composing the empire had always during several centuries been of silver. The silver standard was last consolidated and affirmed by a mint convention between the North German States and Austria, dated January 24, 1857. By this convention gold coins were recognized as "trade-money."

The first of the recent series of laws dealing with the German currency was dated December 4, 1871.

a. It authorized the manufacture of an imperial coin (reichs-münze) of which 139½ pieces were to be coined out of one pound (pfund) of fine gold. The pound meant is the zoll-pfund of 500 metric grammes. Each of the reichs-münze would therefore weigh 3.5842 grammes of pure gold.

b. The tenth part of the reichs-münze was to be called a mark. Each mark would therefore weigh 0.35842 grammes of pure gold. As the American gold dollar (act of 1849) weighs 1.50444 grammes of pure gold, the German imperial gold mark is equivalent to about 23.825 cents American gold.

c. Besides the imperial gold coin of 10 marks, coins of 20 marks were also to be issued. (These pieces would be equivalent to $4.765 American gold, or a trifle less than a British sovereign.)

d. These gold coins of Germany were made legal tender to an unlimited amount.

The gold coinage was to be done at the public expense, but the amounts to be coined were to be fixed by the chancellor with the agreement of the federal council and to be executed under the supervision of the empire.

e. The 10-mark piece was to be taken as equal to 3⅓ thalers in Prussian silver, or to 5 florins 50 kreutzer (five-sixths of a florin) in South German or "Gulden" silver or convention-money. As the Prussian silver thaler weighs 16⅔ grammes fine and the florin 9.5238 grammes fine, these sums amount respectively to 55.5555, etc., grammes, which is 15½ times the weight of the gold 10-mark piece. Thus, by the law of 1871, the double standard of gold and silver at the relation of 15½ was established in Germany.

f. The establishment of the double standard was, however, intended to be merely provisional. The transition to a gold standard was contemplated not only in the debates preceding the enactment of the law of 1871; an indirect expression of this intention appears in the law itself.

Clause 6 says: "Till the passing of a law dealing with the *withdrawal* of the silver coins," etc.

g. It was further enacted by clause 10 (not in the bill as originally presented, but introduced subsequently as an amendment) that "For the present and until further notice there will be no coinage of any other gold coins than those introduced by this act, *nor of large silver coins* with the exception of memorial coins."

h. A further clause empowered the chancellor of the empire to ordain ("anordnen") the withdrawal of the existing gold and silver coins of the states of the confederation and to take the necessary means for that purpose from the imperial treasury.

In brief, the law of 1871 provisionally established the double standard at 15½, stopped the coinage of legal-tender silver without demonetizing or withdrawing the coins already in circulation, ordered a coinage of gold pieces, and made provision without setting a time for the withdrawal of the outstanding silver legal-tender coins whenever the chancellor of the empire should see fit.

Another coinage law ("munz-gesetz") was passed July 9, 1873.

a. This law made definite provision for the establishment of the gold standard; nevertheless *it is not yet established*, nor is there anything to prevent its being totally abandoned and the double standard restored at any moment that the government may see fit.

b. The law of 1873 commenced with an announcement that the gold currency and standard would take the place of the existing system at a time to be fixed by imperial decree after a three months' notice.

c. Five-mark gold pieces were to be coined as well as the 20 and 10 mark pieces.

d. A token coinage of silver was ordered. This was to consist of 5, 2, and 1 mark pieces, and smaller coins. Out of a pound (500 grammes) of fine silver there were to be coined 100 silver marks. This gave to each mark a weight of 5 grammes, and to 10 marks a weight of 50 grammes, fine. In the full weighted legal-tender silver, 10 marks (3⅓ thalers or 5⅝ florins) weigh 55.5555 grammes, fine. Hence the new token coinage is debased about 10 per cent. below its nominal value, at 15½ to 1 of gold. The value of this silver mark token in American silver (the dollar of 371¼ grains fine) is $0.230933.

e. These new silver coins were not to be a legal tender between man and man beyond the limit of 20 marks, (about $4.62 silver,) but the imperial and state treasuries were to accept them up to any amount.

f. The emission of these new silver tokens was limited until further notice ("bis auf weiteres") to 10 marks per head of population. With a population estimated at 43,000,000, this provisional limit was about 430,000,000 marks, or $99,301,390 in American silver.

"Upon each issue of these coins a quantity in value of the coarser circulating silver coins of the states, beginning with those not belonging to the 30-thaler basis, shall be withdrawn." (Article 4.)

The nickel and copper coinage was not to exceed 2½ marks per capita of the population. The legal tender of these was limited to 1 mark, but they were redeemable in any amount by public treasuries.

g. Powers were given to the federal council (Bundesrath) to demonetize the old silver coins in accordance with the above provision.

h. Whenever the mints should not be engaged in coining for the government they were to be free to coin (only) 20-mark gold pieces on private account, on payment of a seigniorage not to exceed 7 marks per pfund of pure gold.

i. By the 1st of January, 1876, all bank and corporation notes, not

payable in the new imperial currency, are to be withdrawn, and after that date no bank or corporation notes shall remain in circulation or be issued for a less sum, each, than 100 marks.

j.-All paper money issued by the states to be withdrawn by January 1, 1876. On the other hand an issue of imperial paper money will take place in accordance with an imperial law to be enacted.

The monetary changes effected or likely to be effected by these various provisions of law cannot be traced or computed with certainty. We have the statistics of the old German coinage, but are without those of the wear and tear and loss of the old coins. The import and export movements are not represented with exactness in the foreign trade statistics. The movement of specie into and out of Germany occasioned by the payment of the French indemnity is uncertain; while as to the results of re-organizing and displacing the paper-note circulation of the Empire, or whether or not the present legal-tender limit of the silver token-coins will be enlarged, or whether the present temporary double standard will or will not be permanently retained, nothing can as yet be predicted with assurance.

All that is known with tolerable certainty is the old coinage; the wear, tear, and loss of the newest portion of it; the amounts of silver hitherto withdrawn from circulation; the amounts recoined under the new coinage laws; the approximate amounts thrown upon the markets of the world; and the resulting estimate of how much will be left to be sold during the period while the recoinage lasts, and provided no change is made in the existing provisions of law.

These data will now be adduced in the order mentioned.

Statistics of the old coinages of the states now composing the German Empire, from 1750 to 1871; also the amounts of the same withdrawn and demonetized, and withdrawn but not demonetized up to May 12, 1876; also the further amounts withdrawn up to the date of the latest advices.

Coins.	*a* Coined from 1750 to 1871.	Withdrawn and demonetized up to May 12, 1876.	Withdrawn but not demonetized up to May 12, 1876.
	Marks.	*Marks.*	*Marks.*
Thaler and two-thaler pieces	1,484,000,000	*b*10,000,000	*c*193,810,000
Florins	204,000,000	180,500,000	.....
Hanse-town coins	24,000,000	4,350,000	50,000,000
Small coins equivalent to, say	68,000,000		
Totals	1,780,000,000	194,850,000	243,810,000
Further amounts withdrawn and demonetized, and withdrawn up to September 30, 1876	.....	295,150,000	355,190,000
		*d*490,000,000	599,000,000

a British commission report, page xxii. The coins struck in 1872 and 1873, mentioned in appendix, page 26, were commemorative coins, or medals.

b Crown thalers 8,000,000 and convention thalers 2,000,000.

c Two-thaler pieces 109,000,000; thalers, 1750 to 1816, 47,000,000; thalers, 1817 to 1822, 36,000,000; thalers, 1823 to 1856, 1,800,000; thalers since 1857, 10,000; total, 193,810,000 marks.

d Of this amount, 205,000,000 sold and 285,000,000 recoined.

From this table it will be seen that the old coinages amounted to 1,780,000,000 marks, and the withdrawals up to the end of September, 1876, to about 600,000,000 marks, of which about 500,000,000 had been demonetized up to September 30, 1876.

WEAR, TEAR, AND LOSS OF OLD COINAGES.

The only series of silver coins fully retired so far, is the florin series, coined between 1837 and 1871; and of these only 11½ per cent. appear to have been lost. The wear and tear are not given; but the entire wear, tear, and loss have been assumed to be about one-third, (Br. Com. Rep., question 707.) The consul-general of Belgium, at Hamburg, in a communication to the United States monetary commission, reckons it at one-fourth. How far it would be reasonable to apply this proportion to the thaler series of coins, which date from 1750, and, in addition to their longer wear and tear, were subjected to the vicissitudes of the Seven-Years' war, the French wars, the invasions of Napoleon, and the international redistribution of the precious metals in the early part of this century, it is impossible to decide.

AMOUNT DISPOSABLE IN 1873.

If this proportion be assumed at one-third, the stock of silver to be disposed of in Germany would stand as follows:

	Marks.
Total coinages 1750 to 1871	1,780,000,000
Allowance for wear, tear, loss, and exportation one-third, or say	593,300,000
Actual stock of silver in 1873	1,286,700,000
Amount needed for subsidiary coins under new system, at the rate of 10 marks per capita, say	430,000,000
Remaining to be disposed of in 1873	856,700,000

This calculation makes no allowance for any accession of silver from the French indemnity or other foreign sources, nor from the German mines, nor for any loss by exportation to France or other foreign countries from 1871 to 1873; nor for any difference in weight between the old mark (at the rate of three to one thaler) and the new mark; the last-named difference being quite small and hardly worth considering in a calculation so largely hypothetical.

AMOUNT WITHDRAWN FROM CIRCULATION UP TO SEPTEMBER 30, 1876.

Of the 1,286,000,000 marks assumed to remain of the old coinage, there had been withdrawn from circulation up to the end of September last about 600,000,000 marks, leaving, as assumed, about 686,000,000 marks of old silver still in circulation at that date, plus 317,000,000 marks of the new coinage, which had been issued to partly replace the amounts withdrawn. The silver circulation of the empire was, therefore, in 1876 still about 1,000,000,000 marks, or say 250,000,000 American silver dollars, and indications were not wanting that to diminish the silver circulation below this point would occasion inconvenience.*

*These indications were the project presented to the federal council to raise the per capita allowance of silver from 10 to 15 marks and the disturbance in the Duchy of Lichtenstein on account of the inadequacy of silver coin. "The notice that the German government regards the rate of 10 marks of imperial silver pieces, determined by article 4 of the currency act, to be too low has now been confirmed. The chancellor of the empire has presented a bill to the federal council, to the effect that section 4 of the currency act is to be changed, inasmuch as, instead of 10 marks per head, 15 marks are to be coined for every head of the entire population. It has been found, especially in Southern Germany, where a greater proportion of new small change had been sent, that the former amount per head would not suffice for the requirements of traffic."

* * * * * * *

"Besides, the maximum of 20 marks, which, according to section 9 of the currency act may not be exceeded in case of legal payments, is rated very low indeed. The

AMOUNT HITHERTO THROWN ON THE MARKET.

The cumulative amount of silver thrown on the market is shown in the following table:

Up to—	Cumulative amount.	Authority.
September 30, 1875	$100,521,090	Br. Com. Rep., App. 27.
April 26, 1876	128,444,784	*Br. Com. Rep., App. 127.
September 30, 1876	*204,856,160	Con. Gen. Belgium at Hamburg.

*The details show the sales by years and countries. †Netting 2,176,939 pounds (pfunds?) of fine silver.

The amount thrown on the market up to the date of the latest advices, September 30, 1876, was nominally 204,856,160 marks, netting 2,176,939 pounds (pfund) of fine silver, say nearly $50,000,000, in American silver dollars.

AMOUNT REMAINING UNSOLD.

Treating the assumptions of the amount of silver remaining of the old coinage to be correct, the situation may be summed up as follows:

There remained to be disposed of in 1873 an amount of old silver coins equal to 856,700,000 marks. Up to September 30, 1876, there had been sold 204,900,000 marks, and this would leave 651,800,000 marks, or say, roughly, $163,000,000 in American silver yet to be disposed of.

Through what period of time this operation may be extended cannot be surmised; but, judging from the progress of the withdrawal of the old coins and the recoinage of the new ones, as shown above, it may require some years.

government can escape embarrassment by amending article 9 of the act in such a manner that this maximum may be raised. In France, the rate in question amounts to 50 francs; in England, to 40 shillings. It will, therefore, be but natural if Germany double its maximum and raise it to 40 marks. It would even be advisable that at present, when the amendment of section 4 has to be sanctioned by the Reichsrath, the change to section 9, which puts Germany on an equal footing with France and England, should be brought before the assembly also."—(London Economist, October 21, 1876.)

FRENCH INDEMNITY.

MINUTE ON THE PAYMENT OF THE FRENCH WAR-INDEMNITY OF 1871.

By Alex. Del Mar.

According to the treaty accepted by the National Assembly of France on March 1, 1871, and signed at Frankfort May 10, 1871, Germany was to be paid five milliards of francs as indemnity for her expenses and losses by the Franco-Prussian war. In round figures this amounts to $1,000,000,000. On August 5, 1874, M. Léon Say gave to the French legislature an account of the manner in which this vast payment was made.

Following this eminent authority it appears that the treaty of Frankfort provided for the following payments by the French:

	Francs.
Thirty days after the establishment of order in Paris	500,000,000
During the year 1871	1,000,000,000
May 1, 1872	500,000,000
March 2, 1874	3,000,000,000
Total	5,000,000,000

On the 3d of March of each year the French government was to pay interest on the last three milliards at the rate of 5 per cent. per annum. In these payments the metal thaler was fixed at 3¾ francs and the metal florin at 2.15 francs. If remitted in bills of exchange, the same to be reckoned at the usual course for the time. No payment to be "effective" until converted into its metallic equivalent at Berlin. No advance or delayed payments to be made.

It was further agreed that the German government should allow 325,000,000 francs to the Alsace-Lorraine railways and 200,000,000 for damage done to the city of Paris.

At the final settlement of these vast payments, the total sum appeared to be 5,862,807,290 francs, and the average equivalents were as follows: The thaler, 3.7910; the pound sterling, 25.4943; the marc banco, 1.9089; the Belgian franc, 1.0061; the Dutch florin, 2.1509; the Frankfort florin, 2.1637; and the reichsmark, 1.2528 francs.

The quantity of metallic money transferred from France to Germany by the government of France was as follows:

	Francs.
Gold	273,003,058.10
Silver	239,291,875.75
Total	512,294,933 85

The balance of the various payments consisted of bills of exchange drawn against commercial credits of Frenchmen in foreign countries, and against bills of exchange on foreign countries received for subscription to French governmental loans newly issued for the purpose. It further consisted of German and other foreign stocks, and German and other foreign bank-notes and credits held by Frenchmen, all of which

came into the possession of the French government in consideration for the loans organized for the purpose.

In effect, of the total payments of about $1,172,561,460, about $102,458,986 were paid in coin, and the balance in the form of a rent charge or annuity on the French government, represented by government stocks or *rentes*.

Although M. Say's account furnishes the details, by coins, of the sum of 512,000,000 francs paid by the French government to Germany in metallic money, it does not furnish the details of the transmission of this sum by dates; so that herein, as well as with regard to the German official import and export account, which is defective, the movement of the precious metals into and out of Germany between December 4, 1871, and the date of the payment of the last installment of the French indemnity, in 1874, is left in doubt.

From other sources, however, an approximate estimate may be made. We know that the German mint melted down for its own coinage one hundred and sixty-nine million four hundred thousand dollars' worth of French Napoleons. It is also known, says M. Léon Say, that the Bank of England bought nearly £8,000,000 of the same sort of money between 1870 and 1873. Here, therefore, we can trace the passage out of France, since the war and previous to 1874, of nearly $210,000,000 of her gold. But as Germany drew from London £1,680,000 of the Napoleons which she put into her furnace, it may be that that sum was included in the £8,000,000 of the Bank of England, and is therefore counted twice. For this reason, the amount really sent to Germany and England may be put at $200,000,000, and this is the sum which, according to M. Say, represents the effective loss of gold which France had to support after the war. Of this sum, the government exported to Berlin $54,600,000, and the remaining $145,400,000 were carried out by private firms, for transmission to Berlin and for various other purposes.

Besides this, the French government sent to Berlin $47,860,000 in silver; while on the other hand, between 1870 and 1873, France imported from Germany at least sixty million eight hundred thousand dollars' worth of silver, showing that she got back all of the $47,860,000 in silver transmitted by the government and at least $13,000,000 in addition.

Therefore, so far as France is concerned, the transaction of the indemnity in actual metal resulted as follows:

	France lost.	France gained.
Gold	$200,000,000	None.
Silver	None.	$13,000,000

And, so far as Germany is concerned, it resulted as follows:

	Germany lost.	Germany gained.
Gold	None.	$167,700,000
Silver	$13,000,000	None.

Whether the thirteen million dollars' worth of silver lost by Germany and gained by France is to be taken as part of the silver considered to have been thrown on the market by Germany in pursuance of her change of monetary standard or not, cannot be determined with certainty.

MOVEMENT OF SPECIE TO INDIA.

MINUTE ON THE MOVEMENT OF SPECIE TO INDIA.

By Alex. Del Mar.

It is purposed to begin with the year 1835—as being far enough back for practical purposes*—and review in detail the course of the flux of specie from Europe to India, and the circumstances attending it, with the view of forming a judgment as to the importance and influence of such flux in the past and its probable continuance and dimensions in future. These circumstances will include the Sepoy rebellion, the change of the government of India from the East India Company to the Crown of England, the finances of the Anglo-Indian Empire, the construction of public works in India, the rise and progress of the railway system, the cotton-excitement and its subsidence, the era of returns from railway investments, the course of foreign trade, and the recent opening of the interior commerce of India.

PROPORTION OF THE WORLD'S PRODUCT ABSORBED BY INDIA.

During the forty-one years, 1835 to 1875 inclusive, the total product of silver throughout the world is estimated in round numbers at $1,800,000,000. During the same period about $1,200,000,000 were shipped to India, and of the $1,200,000,000 $1,000,000,000 were retained in that country. The following table exhibits the net (or retained) imports of silver into India.

Table showing the annual net imports of silver into British India. The sums are converted from pounds sterling into dollars at the rate of £1 to $5.

Year.	Net imports.	Year.	Net imports.
1835-'36	$8,059,480	1856-'57	$55,366,235
1836-'37	6,094,410	1857-'58	61,094,740
1837-'38	9,834,730	1858-'59	38,641,710
1838-'39	13,225,650	1859-'60	55,737,815
1839-'40	8,252,355	1860-'61	26,040,045
1840-'41	7,008,350	1861-'62	45,432,280
1841-'42	6,416,140	1862-'63	62,750,775
1842-'43	14,762,225	1863-'64	63,983,595
1843-'44	18,477,210	1864-'65	50,393,990
1844-'45	9,942,805	1865-'66	93,343,365
1845-'46	4,662,450	1866-'67	†34,815,370
1846-'47	6,891,245	1867-'68	27,969,805
1847-'48	*2,470,955	1868-'69	43,005,110
1848-'49	1,569,520	1869-'70	36,601,685
1849-'50	6,368,035	1870-'71	4,709,685
1850-'51	10,586,125	1871-'72	32,564,135
1851-'52	14,326,785	1872-'73	3,523,220
1852-'53	23,025,120	1873-'74	12,256,915
1853-'54	11,528,720	1874-'75	23,211,010
1854-'55	148,000	1875-'76	7,776,775
1855-'56	40,971,875	1876-'77	.....

*Deficit. †Eleven months.

* "In the year 1831 Jacob estimated the annual loss (of gold and silver to Europe) by the Cape of Good Hope (India, China, &c.) at £2,000,000 sterling. So far as I can recollect, this was also the opinion of that great statesman Huskisson."—(Baron von Humboldt on Fluctuations of Gold, London, 1839, p. 30.) In the years immediately preceding 1831 the movement was quite small. Consult Table 14 in appendix to Jacob's History of Precious Metals, for movement from fiscal years 1810 to 1829, inclusive.

During the same period of forty-one years the total product of gold throughout the world is estimated in round numbers at $3,460,000,000. Of this sum about $530,000,000 were shipped to India, and of the $530,000,000 $515,000,000 appear to have been retained in that country.

The following table furnishes the net (or retained) imports of gold into India:

Table showing the annual net imports of gold into British India. The sums are converted from pounds sterling at the rate of £1 to $5.

Year.	Net imports.	Year.	Net imports.
1835–'36	$1,694,590	1856–'57	$10,456,070
1836–'37	2,098,630	1857–'58	13,915,365
1837–'38	2,154,350	1858–'59	22,139,265
1838–'39	1,294,625	1859–'60	21,421,170
1839–'40	1,133,215	1860–'61	21,162,845
1840–'41	686,560	1861–'62	25,922,125
1841–'42	828,115	1862–'63	34,240,795
1842–'43	1,055,805	1863–'64	44,491,530
1843–'44	2,032,615	1864–'65	49,199,820
1844–'45	3,550,500	1865–'66	28,622,380
1845–'46	2,722,380	1866–'67	*19,211,640
1846–'47	4,234,745	1867–'68	23,047,335
1847–'48	5,195,580	1868–'69	25,706,760
1848–'49	6,744,590	1869–'70	27,960,585
1849–'50	5,584,965	1870–'71	11,410,605
1850–'51	5,766,470	1871–'72	17,826,720
1851–'52	6,338,065	1872–'73	12,716,810
1852–'53	5,861,505	1873–'74	6,913,190
1853–'54	5,307,215	1874–'75	9,367,675
1854–'55	3,656,450	1875–'76	.....
1855–'56	12,531,225	1876–'77	.....

*Eleven months.

The gold imports of India are equal to one-half of her silver imports and form one-third of the total imports of specie. This proportion is greater than appears to be commonly supposed. Great as it is, however, gold forms no part of the circulating-medium of the country, with this exception, that about £10,000,000, or $50,000,000, of it are estimated to remain in existence in the form of British coin, (Parliamentary report on the so-called "Depreciation of silver," appendix, page 6.)

Mr. Seyd (*Ibid.*, appendix 6) says: "The gold mohur has entirely disappeared from circulation."

Col. H. Hyde (*Ibid.*, questions 938–945) says: "The mohur is simply an assay-stamp; it is certified gold. The large amount of gold that has been exported to India is turned into ornaments, used in manufacture, and hoarded; it is not used anywhere for the purposes of currency."

It seems probable that, with the political and social amelioration which is likely to follow the government of India directly by the British Crown and the establishment of a vast railway system, the barbarous magnificence which has led to the consumption of so much gold in the arts will eventually, although slowly, disappear. Similar influences will doubtless, also, diminish the motives for hoarding gold. There are, therefore, strong reasons for believing that in future the shipments of gold to India will gradually diminish in importance. Nevertheless they still continue to amount to very considerable sums.

ERAS IN THE RECENT FLUX OF SILVER TO INDIA.

The flux of silver to India during the past forty-one years may con-

veniently be divided into five eras or periods. These, with their accompanying political or financial phenomena, may be tabulated as follows:

Era or period.	Duration of period.	Average annual net imports of silver into India.	Specification of period from April — to April —	Political and financial phenomena.
First period....	20 years....	$9,000,000	1836 to 1855...	Relief to scarcity of money-metals in Europe from Russia, California, and Australia.
Second period..	7 years.....	46,000,000	1856 to 1862...	Sepoy rebellion; change of government to Crown; public works; railways.
Third period...	4 years	68,000,000	1863 to 1866...	Cotton excitement; colonial deficits; public works; railways.
Fourth period..	6 years.....	30,000,000	1867 to 1872...	End of cotton excitement; returns from investments in public works and railways.
Fifth period....	4 years.....	12,000,000	1873 to 1876...	Same.

During the first period, which comprises the twenty years, 1836 to 1855, inclusive, and ended shortly before the Sepoy rebellion, the average annual net imports of silver into India were about $9,000,000. During the second period, which comprises the seven years, 1856 to 1862, inclusive, the average annual imports of silver were about $46,000,000. During the third period, which comprises the four years, 1863 to 1866, inclusive, the average annual imports of silver were about $68,000,000. During the fourth period, which comprises the six years, 1867 to 1872, inclusive, the average annual imports of silver were about $30,000,000. During the fifth period, which comprises the four years, 1873 to 1876, inclusive, the average annual imports of silver were about $12,000,000.

COMPARISON OF THE INDIAN FLUX WITH THE WHOLE PRODUCT OF THE WORLD, BY ERAS.

Comparing the flux of silver to India with the whole product of the world, by the eras denoted above, it appears that during the first era India took about one fourth, during the second era about once and a half times, during the third period about once and a quarter times, during the fourth period about one-half, and during the fifth period about one-sixth.

Political and financial events which distinguish the various eras in the flux of silver to India.

The political and financial events which distinguish and mark the various eras in the flux of silver to India are briefly indicated in the table. Their significance and bearing upon the probable future flux of silver demand more specific mention. This will be found in the following summary:

Summary of events distinguishing the first period, 1836–'55.—*Net imports of silver* $9,000,000 *a year.*

From the termination of the eighteenth century until about the year 1840, there occurred a falling off in the produce of the gold and silver mines of the world. This falling off resulted in a diminution of the stock of coin, an occurrence which manifested itself in the frequent suspensions and financial convulsions of the first third of this century.

During this time the ability of Europe to ship specie to India was much diminished.* Therefore the flux, which began about the year 1835, when the gold mines of the Ural afforded assurance of an increasing and substantial yield, was in the nature of a long-withheld supply. Small as was this flux to India compared with the more recent movement, it exceeded in volume what perhaps might have been its dimensions had Europe previously been in a condition to freely supply India with the precious metals.

Summary of events distinguishing the second period, 1856–'62.—Net imports of silver into India $46,000,000 a year.

Flux to India.—The influence of the auriferous placers of California which were opened in 1848, and of Australia, opened in 1854, now began to be felt. With an ample current supply of gold for its own needs, Europe could afford to ship both gold and silver to India on a more liberal scale. On the other hand, India, ever ready to take specie when it can be purchased to advantage, increased her demand. This increased demand first made itself felt in the year 1855–'56, when the net imports of silver into India rose from £29,600 (their figure during the previous year) to £8,194,374.

Scarcely a year later another event added its influence to the effects of the auriferous surplus of California and Australia. This was the Sepoy rebellion or mutiny, which broke out in March, 1857, and was not suppressed until 1859. It formed the occasion for a substitution of British for native troops and a considerable increase in the civil service of the Anglo-Indian government, which service is filled exclusively by Englishmen. Not only was the number of governmental servants, military and civil, increased, but so also was the rate of their pay, which was higher than that of the native troops and servants previously employed. The increase over ordinary expenses thus saddled upon the Indian government had to be provided for by loans raised in England. In 1859 £5,216,528 were borrowed in England by the East India council. War-material for use in suppressing the rebellion had also to be shipped from the mother-country. Money was also borrowed in England to defray the other expenditures rendered necessary by the war in India. All these circumstances gave rise to large shipments of specie from England to India. After the suppression of the rebellion, other influences contributed to sustain the increased flow of specie to India. On August 2, 1858, the government of India was transferred from the East India Company to the Crown of England. This act had the effect of retaining in India the increased civil-service force which the war had first rendered necessary. It was also followed by the construction of forts, barracks, arsenals, stations, roads, bridges, irrigating-works, buildings, telegraph-lines, and other public works, the funds for which were obtained in England. The superior security offered by the imperial government, to which India was now directly subjected, afforded, also, a great stimulus to commercial enterprises involving the investment in India of British capital. Prominent among these was the growth of railway lines, which up to the period of the rebellion had made but little progress, but which now increased very rapidly.

Partial reflux.—Opposed to these influences favoring an increased flow of specie to India were partial influences growing out of them, favoring a reflux of specie from India to Europe; the actual result of the

*Specie even flowed, during part of this time, from India to Europe.

whole tendency of these influences in one direction and of their partial tendency backward, being a somewhat lesser flow of specie than would have occurred had the original influences not been modified.

Part of the supplies required for the European troops and civil servants had to be purchased in England; part of their pay was remitted to their families in England; part of the supplies for public works were purchased in England, and so were a part of those required for the construction of railways.

The following extract of evidence will throw some light on the last-named subject:

"Question 618. Have the exchanges been affected in any way by the payments made in this country to the government during the construction of the railways?—Answer. About 40 per cent. of the whole sums paid in are disbursed in this country for the purchase of rails, permanent way, locomotives, and plants of various kinds. The remaining 60 per cent. has to be paid by the government to the companies in India, and to the extent of 60 per cent. the moneys paid by the railway companies have come in relief of the sum which the government would otherwise have had to draw upon India, and I think it will be found that one of the causes of the increase of the government bills on India has been that as the construction of those railways has been concluded in India, they have no longer had the moneys paid to them for capital to meet the charge which came upon them for interest.

"Q. 619. In other words, is this the position: That the difference between the amount paid in by the railways to the government and the amount spent by the government in this country for the purchases connected with the railways was paid out in India by the Indian government?—A. Yes; the figures being 60 per cent., out of every £100 paid in here by the railway company to the government, £40 were expended in the purchase of things required for the railways; the other £60 remained in the hands of the government to be accounted for in India.

"Q. 620. Therefore this expenditure came in diminution of the remittances which otherwise India would have had to make to this country?—A. That is one way of stating it.

"Q. 621. It came in diminution of the amount which the Indian government on this side would have had to draw on the Indian government in India?—A. That is the way in which I should have put it."—*Report of British Commission on Depreciation of Silver.*

Summary of events distinguishing the third period, 1863–'66.—*Net imports of silver into India*, $68,000,000 *a year.*

Flux to India.—During this period the British military force in India was somewhat diminished, although it remained much greater than it had been previous to the rebellion. The unusual expenditures of the Anglo-Indian government continued, though with a gathering decrease, owing to the successive completion of various important public works and undertakings. The progress of railway construction continued unabated.

Upon the breaking out of the civil war in America a great demand sprung up in Europe for Indian cotton. This demand manifested itself about the year 1863, and continued until a year after the close of the American war, greatly enhancing the price of cotton, stimulating to an enormous degree its production in, and export from, India, and resulting

in unprecedentedly heavy shipments of specie from Europe wherewith to pay for these exports.

Reflux.—The same kind of partial remittances to England of Anglo-Indian official pay and the same partial purchases of supplies in England for troops, officials, public works, and railways in India, continued during this period as during the last; while as a partial offset to her abnormal exports of cotton, India now imported unusually large quantities of British manufactures.

Summary of events distinguishing the fourth period, 1867–'72.—Net imports of silver into India, $30,000,000 a year.

Flux to India.—The Anglo-Indian military and civil services were now reduced to a minimum, though they were still continued on a larger scale than before the rebellion. The most important public works now measurably approached completion, and the construction of railways, while it continued to advance at a steady pace, no longer advanced at an accelerating one. In 1869 the Indian government abandoned the system of guaranteed railways, and itself undertook all new works and extensions, thus discouraging further advances of British private capital for the construction of railways in India. The cotton excitement was now ended, and although the exports continued to be heavy, the price of cotton fell so low as to materially diminish India's means of obtaining specie from Europe.

Reflux.—The same partial remittances of pay to England and the same partial purchases of supplies from England continued as before, but diminishing in extent as the government service was reduced and the public works and railways were completed or ceased to advance at an accelerating speed. The interest guaranteed to be paid to England on the capital of private railways constructed in India now amounted annually to as much as the remittances from England on account of such capital. The continued movement of specie to India therefore depended upon other causes than railway-building.

Summary of events distinguishing the fifth period, 1873–'76.—Net imports of silver into India, $12,000,000 a year.

Flux to India.—The borrowings in England of the Anglo-Indian government on account of extraordinary expenses arising out of the Sepoy rebellion, change of government to the Crown, construction of public works, encouragement of private railways and building of state lines, were now ended. The Indian government deficits were also reduced. This was effected through an increase of the colonial revenues brought about by the agency of the railways in developing the internal revenues of the country.

On the other hand, the exports of merchandise from India, which had continuously declined from £68,027,016 in 1864–'65, during the cotton excitement, and to £52,471,376 in 1869–'70, rose to £55,231,463 in 1872–'73, and to £56,359,230 in 1874–'75, thus pointing to an increased demand for specie in future. With these prospects in view, and anticipating a renewal of the eastward movement of specie, the Anglo-Indian council, in order to equalize the exchange, made anticipatory shipments of silver to India in 1875. These are referred to in the British silver commission report, Q. 2648.

Reflux.—The partial remittances of official pay to England, and partial purchases of supplies from England for public works and railways,

gradually diminished, so that at the present time there appears to be no tendency of any consequence opposed to the free flow of specie to India, except that which is created by the return to England of the guaranteed interest and moderate profits of the capital subscribed chiefly between 1858 and 1869 by English shareholders for the construction of railways in India.*

THE FINANCES OF INDIA.

Under the act of 1858, the finances of the Indian Empire were subjected to the control of the secretary in council, and no grant or appropriation of any part of the revenue could be made without a concurrence of a majority of the council.

Such parts of the revenues of India as may be remitted to England, and moneys arising in Great Britain, must be paid into the Bank of England, and paid out on drafts or orders signed by three members of the council and countersigned by the secretary. (*Martin's Year Book.*)

The following table gives the gross amount of the actual revenues and expenditures of British India. The termination of the fiscal year was changed in 1867 from April 30 to March 31, so that the accounts of the year ended March 31, 1867, only embrace a period of eleven months:

Total gross amount of the public revenue and expenditure of British India, showing surplus or deficiency of revenue in each of the fiscal years since 1856–'57.

Years ended April 30 or March 31.	Gross revenue.	Total expenditures.		Gross expenditures.	Actual surplus (+) or deficiency (−) of revenue.
		In India.	In England.		
1857	£31, 691, 015	£28, 079, 202	£3, 529, 673	£31, 608, 875	+ £82, 140
1858	31, 706, 776	35, 078, 528	6, 162, 043	41, 240, 571	− 9, 533, 795
1859	36, 060, 788	43, 590, 794	7, 466, 136	51, 056, 930	−14, 996, 142
1860	39, 705, 822	44, 622, 269	7, 239, 451	51, 861, 720	−12, 155, 898
1861	42, 903, 234	40, 408, 239	7, 745 848	48, 154, 087	− 5, 250, 853
1862	43. 829, 472	37, 245, 756	7, 624, 476	44. 870, 232	− 1, 040, 760
1863	45, 143, 752	36, 800, 805	7, 252, 317	44, 053, 122	+ 1, 090, 630
1864	44, 613, 062	38, 087, 772	6, 894, 234	44, 982, 000	− 368, 974
1865	45, 652, 897	39, 452, 220	6, 998, 770	46, 450, 990	− 798, 093
1866	48, 935, 220	41, 120, 924	6, 211, 178	47, 332, 192	+ 1, 603, 118
1867	42, 122, 413	37, 094, 406	7, 545, 518	44, 639, 924	− 2, 517, 491
1868	48, 534, 412	41, 646, 947	8, 497, 622	50, 144, 569	− 1, 610, 157
1869	49, 262, 691	43, 225, 587	10, 181, 747	53, 407, 334	− 4, 144, 643
1870	50, 901, 081	42, 791, 013	10, 591, 013	53, 382, 026	− 2, 480, 945
1871	51, 413, 685	41, 015, 502	10, 083, 004	51. 098, 506	+ 315, 179
1872	50, 110, 215	38, 763, 600	9, 850, 912	48, 614, 512	+ 1, 495, 703
1873	50, 219, 489	40, 086, 234	10, 552, 152	50, 638, 386	− 418, 897
1874	49, 598, 253	44, 637, 637	10, 321, 581	54, 959, 228	− 1, 360, 975
1875	50, 570, 171	43, 895, 551	10, 604, 994	54, 500, 545	.....
1876, (estimated upon 10 months actual)	49, 820, 000	.....	.....	49, 088, 000	+ 732, 000

To 1866, inclusive, from official documents; to 1876, inclusive, from Martin's Year Book.

During the twenty years, 1857–'76, inclusive, the deficits of revenue exceeded the surpluses of revenue by the sum of about £60,000,000. As at the beginning of the period, the debt of India was about £59,000,000, and as about £20,000,000 of debt were paid off during the period, there remains at the present time a debt of upwards of £107,000,000.

* The probability of a resumption of a large flow of silver to India is shown in a minute of the Indian government, issued in September, 1876, in reply to a communication of the Bengal Chamber of Commerce, dated July, 1876, and relating to the silver question. A summary of this minute was published in the London Times of October, 1876. It is also referred to in the London Economist of October 28, 1876, p. 1233. No copy of the minute in full has been received by the United States monetary commission

The following table shows the progress of the public debt of British India since 1857, distinguishing that raised in England, with the amount of interest paid:

Debt of British India and interest paid.

Fiscal year.	In India.		In England.		Total.	
	Debt.	Interest.	Debt.	Interest.	Debt.	Interest.
1857	£55, 546, 652	£2, 240, 590	£3, 915, 317	£155, 494	59, 461, 969	2, 396, 084
1858	60, 704, 084	2, 196, 672	8, 769, 400	159, 166	69, 473, 484	2, 555, 838
1859	66, 082, 031	2, 738, 623	15, 089, 277	372, 739	81, 171, 308	3, 111, 362
1860	71, 969, 460	3, 123, 327	26, 138, 000	766, 864	98, 107, 460	3, 889, 191
1861	74, 901, 081	3, 232, 104	29, 976, 000	1, 061, 233	104, 877, 081	4, 293, 337
1862	72, 418, 859	3, 134, 897	35, 095, 300	1, 426, 008	107, 514, 159	4, 560, 905
1863	72, 656, 135	3, 351, 650	31, 839, 100	1, 486, 916	104, 495, 235	4, 838, 596
1864	72, 207, 645	3, 093, 250	26, 310, 500	1, 372, 599	98, 518, 145	4, 465, 849
1865	72, 352, 455	3, 261, 261	26, 125, 100	1, 231, 124	98, 477, 555	4, 492, 385
1866	71, 437, 251	3, 327, 651	26, 946, 400	1, 249, 765	98, 383, 651	4, 577, 416
1867	64, 043, 186	.....	29, 538, 000	.....	93, 581, 186	.....
1868	64, 7c6, 308	.....	30, 697, 000	.....	95, 4c6, 308	.....
1869	64, 449, 175	.....	31, 697, 900	.....	96, 147, 075	.....
1870	66, 553, 731	.....	35, 196, 700	.....	101, 750, 431	.....
1871	66, 698, 768	.....	37, 627, 617	.....	104, 326, 385	.....
1872	67, 856, 685	.....	39, 012, 617	.....	106, 869, 302	.....
1873	66, 168, 427	.....	40, 012, 617	.....	106, 181, 044	.....
1874	66, 273, 249	.....	41, 117, 617	.....	107, 390, 866	.....
1875	.....	.....	.....	.....	.....	.....
1876	.....	.....	49, 797, 033	.....	.....	.....

The figures up to 1866, inclusive, are from official sources; afterward from Martin's Year Book. There appears to be a discrepancy between these authorities, commencing in 1866, of some £8,000,000 in the debt held in India. This, however, may only be due to classification.

The following table shows the amounts raised in England on loans by the home treasury of British India, for the fiscal years ended April, 1834, to 1876 inclusive:

Fiscal years.	Amount.	Fiscal years.	Amount.	Fiscal years.	Amount.
1834	.....	1849	£1, 114, 190	1864	£2, 441, 000
1835	.....	1850	.....	1865	.....
1836	.....	1851	.....	1866	882, 800
1837	.....	1852	.....	1867	2, 731 901
1838	.....	1853	.....	1868	1, 164, 407
1839	.....	1854	.....	1869	1, 534, 140
1840	.....	1855	.....	1870	4, 039, 412
1841	.....	1856	.....	1871	2, 423, 856
1842	£168, 900	1857	.....	1872	1, 413, 496
1843	100, 000	1858	5, 688, 173	1873	.....
1844	.....	1859	6, 887, 114	1874	1, 037, 458
1845	584, 174	1860	12, 805, 530	1875	5, 070, 839
1846	.....	1861	4, 664, 605	1876	1, 206, 299
1847	.....	1862	4, 995, 387	Total	61, 456, 046
1848	502, 455	1863	.....		

This sum was raised by incurring debt to the amount of	61, 730, 400
Toward the redemption of the dividend on East India stock	4, 579, 416
Amount of bonded debt May 1, 1834	3, 538, 654
Total	69, 848, 470
Amount of debt discharged between May 1, 1834, and March 31, 1876	20, 051, 437
Amount of home debt March 31, 1876	49, 797, 033

THE COUNCIL BILLS.

The following table shows the amount of the council bills annually sold in England, or the "sums obtained for bills of exchange drawn in

England by the court of directors or secretary of state for India, on the several governments in India:"

Fiscal years.	Amount.	Fiscal years.	Amount.	Fiscal years.	Amount.
1834	.....	1849	£1, 889, 195	1864	£8, 979, 521
1835	£732, 804	1850	2, 935, 118	1865	6, 789, 473
1836	2, 045, 254	1851	3, 236, 458	1866	6, 998, 899
1837	2, 042, 232	1852	2, 777, 523	1867	5. 613, 746
1838	1, 706, 184	1853	3, 317, 122	1868	4, 137, 285
1839	2, 346, 592	1854	3, 850, 563	1869	3, 705, 741
1840	1, 439, 525	1855	3, 669, 678	1870	6, 989, 122
1841	1, 174, 450	1856	1, 484, 040	1871	8, 443, 509
1842	2, 589, 283	1857	2, 817, 711	1872	10, 310, 339
1843	1, 197, 438	1858	628, 499	1873	13, 939, 095
1844	2, 801, 731	1859	25, 901	1874	13, 285, 678
1845	2, 516, 951	1860	4, 694	1875	10, 241, 615
1846	3, 065, 709	1861	797	1876	12, 389, 613
1847	3, 097, 042	1862	1, 193, 729	1877	.....
1848	1, 541, 804	1863	6, 641, 576		

UNITED STATES.

MINUTE ON THE STANDARD OF THE UNITED STATES.

By Alex. Del Mar.

The standard of the United States, from the period of the establishment of the Government until 1873, was the optional one of silver and gold. The legal relation between these metals, as fixed by the act of April 2, 1792, was 15 to 1. By the act of July 31, 1834, this was altered to 16.002 to 1, and by the act of July 18, 1837, to 15.988 to 1; and this continued until the Revised Statutes of June 22, 1874, operating from December 1, 1873, limited the legal tender of silver dollars, whose further coinage had been interdicted by the act of February 12, 1873, to $5, thus leaving gold as the sole standard.

The following table exhibits the various acts of legislation upon the subject:

Table showing the various acts of the United States Government authorizing the coinage of silver and gold dollars, or their multiples or fractions; the weight of the same in pure metal; the extent to which the same were made legal-tenders for the payment of debts, and the legal relation thus established between silver and gold; also the London market relation of the metals at the period of the passage of such acts.

Act.	Coins.	Weight of dollar, (Troy grains, pure.)	Extent of legal tender.	Legal relation.	Approximate London market relation.
April 2, 1792	Silver dollar	371.25	Unlimited	15.00000 to 1	About 14.4 to 1.
	Gold dollar, multiples of*	24.75	Unlimited		
July 31, 1834	Silver dollar	371.25	Unlimited	16.00215 to 1	About 15.7 to 1.
	Gold dollar, multiples of	23.20	Unlimited		
July 18, 1837	Silver dollar, and fractions of.†	371.25	Unlimited	15.98837 to 1	About 15.8 to 1.
	Gold dollar, multiples of	23.22	Unlimited		
February 24, 1853	Silver dollar	371.25	Unlimited	15.98837 to 1	About 15.3 to 1.
	Gold doll., and multiples of.	23.22	Unlimited		
	Silver dollar, fractions of	345.60	Five dollars		
February 12, 1873	Silver dollar	371.25	Unlimited. Coinage interdicted.	15.98837 to 1	About 15.9 to 1.
December 1, 1873:					
Rev. Stat., sec. 3515	Silver dollar	371.25	Five dollars.		
Rev. Stat., sec. 3513	Silver dollar, fractions of.	‡347.22	Five dollars.		
Rev. Stat., sec. 3513	Silver trade-dollar	378.00	Five dollars.		About 16.2 to 1.
Rev. Stat., sec. 3511	Gold doll., and multiples of.	23.22	Unlimited		

*Eagles, half-eagles, and quarter-eagles. †Half-dollars, quarters, dimes, and half-dimes.

‡The act (February 12, 1873) prescribes the weight of the debased fractional silver coins in "grams," which another act (Revised Statutes, section 3570) defines to be 15.432 grains each.

COINAGE OF THE UNITED STATES.

MINUTE ON THE COINAGE OF THE UNITED STATES.

By Alex. Del Mar

The following tables show by details of coins and years the coinage of the mints of the United States from the year 1793 to 1876, inclusive.

It is to be observed that up to the date of the operation of the act of February 24, 1853, all the silver coins of the United States were a full legal tender, and that after that date and up to the date of the operation of the Revised Statutes, passed June 22, 1874, only the silver dollar among silver coins remained a full legal tender.

Statement of coinage from the organization of the United States Mint to the close of the fiscal year ended June 30, 1876.

GOLD COINAGE.

Period.	Double-eagles.	Eagles.	Half-eagles.	Quarter-eagles.	Three dollars.	Dollars.
1793 to 1795	.....	$27,950	$43,565	.....	.....	.....
1796	.....	69,340	30,980	$2,407 50	.....	.....
1797	.....	83,230	18,045	2,147 50	.....	.....
1798	.....	79,740	124,335	1,535 00	.....	.....
1799	.....	174,830	37,255	1,200 00	.....	.....
1800	.....	259,650	58,110	.....	.....	.....
1801	.....	292,540	130,030	.....	.....	.....
1802	.....	150,900	265,880	6,530 00	.....	.....
1803	.....	89,790	167,530	1,037 50	.....	.....
1804	.....	97,950	152,375	8,317 50	.....	.....
1805	.....	.....	165,915	4,452 50	.....	.....
1806	.....	.....	320,465	4,040 00	.....	.....
1807	.....	.....	420,465	17,030 00	.....	.....
1808	.....	.....	277,890	6,775 00	.....	.....
1809	.....	.....	169,375	.....	.....	.....
1810	.....	.....	501,435	.....	.....	.....
1811	.....	.....	497,905	.....	.....	.....
1812	.....	.....	290,435	.....	.....	.....
1813	.....	.....	477,140	.....	.....	.....
1814	.....	.....	77,270	.....	.....	.....
1815	.....	.....	3,175	.....	.....	.....
1816	.....	.....	.....	.....	.....	.....
1817	.....	.....	.....	.....	.....	.....
1818	.....	.....	242,940	.....	.....	.....
1819	.....	.....	258,615	.....	.....	.....
1820	.....	.....	1,319,030	.....	.....	.....
1821	.....	.....	173,205	16,120 00	.....	.....
1822	.....	.....	88,980	.....	.....	.....
1823	.....	.....	72,425	.....	.....	.....
1824	.....	.....	86,700	6,500 00	.....	.....
1825	.....	.....	145,300	11,085 00	.....	.....
1826	.....	.....	90,345	1,900 00	.....	.....
1827	.....	.....	124,565	7,000 00	.....	.....
1828	.....	.....	140,145	.....	.....	.....
1829	.....	.....	287,210	8,507 50	.....	.....
1830	.....	.....	631,755	11,350 00	.....	.....
1831	.....	.....	702,970	11,300 00	.....	.....
1832	.....	.....	787,435	11,000 00	.....	.....
1833	.....	.....	968,150	10,400 00	.....	.....

Coinage of the United States, &c.—Continued.

GOLD COINAGE.

Period.	Double eagles.	Eagles.	Half-eagles	Quarter-eagles.	Three dollars.	Dollars.
1834	.....	.....	$3,660,845	$293,425 00	.....	.....
1835	.....	.....	1,857,670	3:8,505 00	.....	.....
1836	.....	.....	2,765,735	1,369,965 00	.....	.....
1837	.....	.....	1,035,605	112,700 00	.....	.....
1838	.....	$72,000	1,600,285	137,310 00	.....	.....
1839	.....	382,480	802,745	170,660 00	.....	.....
1840	.....	473,380	1,048,360	153,562 50	.....	.....
1841	.....	656,310	380,725	54,562 50	.....	.....
1842	.....	1,089,070	655,330	89,770 00	.....	.....
1843	.....	2,506,240	4,275,425	1,327,132 00	.....	.....
1844	.....	1,250,610	4,088,275	89,345 00	.....	.....
1845	.....	736,530	2,743,640	276,277 50	.....	.....
1846	.....	1,018,750	2,736,155	279,272 50	.....	.....
1847	.....	14,337,640	5,401,685	482,060 00	.....	.....
1848	.....	1,813,340	1,864,560	98,612 50	.....	.....
1849	.....	6,775,180	1,184,645	111,147 00	.....	$936,789
1850	$326,225,250	3,489,510	860,160	895,547 50	.....	511,301
1851	48,043,100	4,393,280	2,651,955	3,867,337 50	.....	3,658,820
1852	44,860,520	2,811,060	3,669,635	3,283,827 50	.....	2,201,145
1853	26,646,520	2,522,530	2,305,095	3,519,615 00	.....	4,384,149
1854	18,052,340	2,305,760	1,513,195	1,896,397 50	$491,214	1,657,012
1855	24,676,820	1,487,010	1,257,090	600,700 00	171,465	824,883
1856	30,277,560	1,484,900	1,751,665	1,213,117 50	181,530	1,788,976
1857	14,056,300	129,160	673,610	329,465 00	38,496	593,532
1858	28,038,880	629,000	772,775	515,632 50	66,177	230,361
1859	16,236,720	146,000	406,710	213,010 00	34,572	259,065
1860	15,458,800	342,130	361,145	128,980 00	61,206	93,212
1861	59,316,420	552,050	452,590	338,440 00	18,216	15,521
1862	36,247,500	272,000	3,287,160	3,208,122 50	17,355	1,799,259
1863	20,387,720	126,500	117,010	62,475 00	117	1,950
1864	21,465,640	85,800	51,500	23,185 00	16,470	6,750
1865	24,879,600	93,750	86,075	30,502 50	10,065	7,225
1866	27,494,900	376,100	300,750	122,975 00	12,090	7,130
1867	27,925,400	51,150	154,475	73,063 50	7,875	5,225
1868	17,705,800	155,500	153,750	74,125 00	14,700	10,550
1869	21,270,500	209,850	228,925	105,862 50	7,575	5,925
1870	22,018,480	89,130	94,625	35,137 50	10,605	9,335
1871	20,919,240	163,250	158,625	53,400 00	4,020	3,940
1872	19,798,500	254,600	243,700	72,575 00	6,090	1,030
1873	34,765,500	204,650	237,525	39,062 50	75	2,525
1874	48,283,900	383,480	809,780	516,150 00	125,460	323,920
1875	32,748,140	599,840	203,655	2,250 00	60	20
1876	37,896,720	153,610	71,800	53,052 50	135	3,645
Total	765,656,740	56,651,020	69,344,980	26,789,970 00	1,295,568	19,343,218

SILVER COINAGE.

Period.	Trade dollars.	Dollars.	Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
1793 to 1795	.....	$204,791	$161,572 00	.....	.....	.....	$4,320 80	.....
1796	.....	72,920	1,959 00	$1,473 50	.....	$2,213 50	511 50	.....
1797	.....	7,776	.....	63 00	.....	2,526 10	2,226 35	.....
1798	.....	327,536	.....	.....	.....	2,755 00	.....	.....
1799	.....	423,515	.....	.....	.....	.....	.....	.....
1800	.....	220,920	.....	.....	.....	2,176 00	1,200 00	.....
1801	.....	54,454	15,144 50	.....	.....	3,464 00	1,695 50	.....
1802	.....	41,650	14,945 00	.....	.....	1,097 50	650 50	.....
1803	.....	66,064	15,857 50	.....	.....	3,304 00	1,892 50	.....
1804	.....	19,570	78,259 50	1,684 50	.....	826 50	.....	.....
1805	.....	321	105,861 00	30,348 50	.....	12,078 00	780 00	.....
1806	.....	.....	419,788 00	51,531 00	.....	.....	.....	.....
1807	.....	.....	525,788 00	55,160 75	.....	16,500 00	.....	.....
1808	.....	.....	694,200 00	.....	.....	.....	.....	.....
1809	.....	.....	702,905 00	.....	.....	4,471 00	.....	.....
1810	.....	.....	638,138 00	.....	.....	635 50	.....	.....
1811	.....	.....	601,822 00	.....	.....	6,518 00	.....	.....

Coinage of the United States, &c.—Continued.

SILVER COINAGE.

Period.	Trade-dollars.	Dollars.	Half-dollars.	Quarter-dollars.	Twenty cents.	Dimes.	Half-dimes.	Three cents.
1812			$814,029 50					
1813			620,951 50					
1814			519,537 50			$42,150 00		
1815				$17,308 00				
1816			23,535 00	5,000 75				
1817			607,783 50					
1818			980,161 00	90,293 50				
1819			1,104,000 00	36,000 00				
1820			375,561 00	31,861 00		94,258 70		
1821			652,898 50	54,212 75		118,651 20		
1822			779,786 50	16,020 00		10,000 00		
1823			847,100 00	4,450 00		44,000 00		
1824			1,752,477 00					
1825			1,471,583 00	42,000 00		51,000 00		
1826			2,002,000 00					
1827			2,746,700 00	1,000 00		121,500 00		
1828			1,537,600 00	25,500 00		12,500 00		
1829			1,856,078 00			77,000 00	$61,500 00	
1830			2,382,400 00			51,000 00	62,000 00	
1831			2,936,830 00	99,500 00		77,135 00	62,135 00	
1832			2,398,500 00	80,000 00		52,250 00	48,250 00	
1833			2,603,000 00	39,000 00		48,500 00	68,500 00	
1834			3,206,002 00	71,500 00		63,500 00	74,000 00	
1835			2,676,003 00	488,000 00		141,000 00	138,000 00	
1836		$1,000	3,273,100 00	118,000 00		119,000 00	95,000 00	
1837			1,814,910 00	63,100 00		104,200 00	113,300 00	
1838			1,773,000 00	208,000 00		239,493 00	112,750 00	
1839		300	1,717,280 50	122,786 50		229,471 50	106,457 50	
1840		61,005	1,145,054 00	153,331 75		253,358 00	113,954 25	
1841		173,000	355,500 00	143,000 00		363,000 00	98,250 00	
1842		184,618	1,484,882 00	214,250 00		390,750 00	58,250 00	
1843		165,100	3,056,000 00	403,400 00		152,000 00	58,250 00	
1844		20,000	1,885,500 00	290,300 00		7,250 00	32,500 00	
1845		24,500	1,341,500 00	230,500 00		198,500 00	78,200 00	
1846		169,000	2,277,000 00	127,500 00		3,130 00	1,350 00	
1847		140,750	1,870,000 00	280,500 00		24,500 00	63,700 00	
1848		15,000	1,880,000 00	36,500 00		45,150 00	63,400 00	
1849		62,600	1,781,000 00	85,000 00		113,900 00	72,450 00	
1850		47,500	1,341,500 00	150,700 00		244,150 00	82,250 00	
1851		1,300	301,375 00	62,000 00		142,650 00	82,050 00	$185,022 00
1852		1,100	110,565 00	68,265 00		196,550 00	63,025 00	559,905 00
1853		46,110	2,430,354 00	4,146,555 00		1,327,301 00	785,251 00	342,000 00
1854		33,140	4,111,000 00	3,466,000 00		624,000 00	365,000 00	20,130 00
1855		26,000	2,284,725 00	861,350 00		207,500 00	117,560 00	4,170 00
1856		63,500	1,903,500 00	2,129,500 00		696,000 00	299,000 00	43,740 00
1857		94,000	114,000 00	583,000 00		489,000 00	197,000 00	
1858			4,430,000 00	3,019,750 00		226,000 00	327,000 00	37,980 00
1859		288,500	4,005,500 00	1,428,000 00		229,000 00	195,000 00	41,400 00
1860		600,520	1,627,400 00	330,450 00		98,600 00	96,500 00	16,440 00
1861		559,900	959,650 00	771,550 00		167,300 00	139,350 00	7,950 00
1862		1,750	1,785,435 00	730,937 50		158,405 00	117,627 50	18,256 50
1863		31,400	983,630 00	113,965 00		34,071 00	8,223 00	2,803 80
1864		23,170	483,985 00	22,492 50		14,037 00	4,518 50	11 10
1865		32,900	553,100 00	27,650 00		17,160 00	4,880 00	618 00
1866		58,550	579,525 00	9,712 50		21,065 00	10,732 50	679 50
1867		57,000	897,450 00	18,175 00		13,670 00	435 00	141 00
1868		54,800	946,750 00	37,475 00		73,315 00	24,290 00	120 00
1869		231,350	561,675 00	23,137 50		23,905 00	527 50	151 50
1870		588,308	1,009,375 00	23,047 50		98,185 00	48,222 50	115 50
1871		657,929	1,242,771 00	29,971 75		10,707 50	14,396 25	129 75
1872		1,112,964	1,496,492 50	55,096 25		222,471 50	152,751 75	61 05
1873		977,150	1,199,775 00	174,362 50		419,040 00	175,442 50	25 50
1874	33,583,900		1,438,930 00	458,515 50		497,255 80		
1875	5,697,500		2,853,500 00	623,950 00	$5,858 00	889,560 00		
1876	6,132,050		4,985,525 00	4,106,262 50	263,560 00	3,639,105 00		
Total	45,418,450	8,045,838	109,123,190 50	27,189,946 50	269,418 00	14,086,716 30	4,906,946 90	1,281,850 20

Coinage of the United States—Continued.

MINOR COINAGE.

Period.	Cents.	Half-cents.	Period.	Cents.	Half-cents.
1793 to 1795	$10,660 33	$712 67	1837	$55,583 00	
1796	9,747 00	577 40	1838	63,702 00	
1797	8,975 10	535 24	1839	31,286 61	
1798	9,797 00		1840	24,627 00	
1799	9,045 85	60 83	1841	15,973 67	
1800	28,221 75	1,057 65	1842	23,833 90	
1801	13,628 37		1843	24,283 20	
1802	34,351 00	71 83	1844	23,987 52	
1803	24,713 53	489 50	1845	32,948 04	
1804	7,568 38	5,276 56	1846	41,208 00	
1805	9,411 16	4,072 32	1847	61,736 69	
1806	3,480 00	1,780 00	1848	64,157 99	
1807	7,272 21	2,380 00	1849	41,785 10	$199 32
1808	11,090 00	2,600 00	1850	44,268 44	199 06
1809	2,224 67	5,772 86	1851	98,897 07	738 36
1810	14,585 00	1,075 00	1852	50,630 94	
1811	2,180 25	315 70	1853	66,411 31	648 47
1812	10,755 00		1854	42,361 56	276 79
1813	4,180 00		1855	15,748 29	282 50
1814	3,578 30		1856	26,904 63	202 15
1815			1857	63,334 56	175 90
1816	28,209 82		1858	234,600 00	
1817	39,484 00		1859	307,000 00	
1818	31,670 00		1860	342,000 00	
1819	26,710 00		1861	101,660 00	
1820	44,075 50		1862	116,000 00	
1821	3,890 00		1863	478,450 00	
1822	20,723 39		1864	427,350 00	
1823			1865	541,800 00	
1824	12,620 00		1866	187,080 00	
1825	14,611 00	315 00	1867	113,750 00	
1826	15,174 25	1,170 00	1868	98,565 00	
1827	23,577 32		1869	78,810 00	
1828	22,606 24	3,030 00	1870	58,365 00	
1829	14,145 00	2,435 00	1871	62,075 00	
1830	17,115 00		1872	9,320 00	
1831	33,592 60	11 00	1873	107,330 00	
1832	23,621 00		1874	137,935 00	
1833	27,360 00	770 00	1875	123,185 00	
1834	18,551 00	600 00	1876	120,090 00	
1835	38,784 00	705 00			
1836	21,110 00	1,190 00	Total	5,267,662 44	39,926 11

Period.	Five cents.	Three cents	Two cents.	Period.	Five cents.	Three cents.	Two cents.
1864			$36,450 00	1872	89,200 00	18,330 00	6,170 00
1865		$105,930 00	535,600 00	1873	352,400 00	34,320 00	
1866	$66,240 00	270,270 00	122,980 00	1874	244,350 00	29,640 00	
1867	1,562,500 00	133,410 00	69,880 00	1875	94,650 00	12,540 00	
1868	1,445,100 00	108,390 00	61,320 00	1876	132,700 00	7,560 00	
1869	1,101,250 00	64,380 00	34,615 00				
1870	487,500 00	42,690 00	22,800 00				
1871	171,950 00	27,630 00	22,105 00	Total	5,747,840 00	855,090 00	912,020 00

TOTAL COINAGE.

Period.	Gold.	Silver.	Minor.	Total.
1793 to 1795	$71,485 00	$370,683 80	$11,373 00	$453,541 80
1796	102,727 50	79,077 50	10,324 40	192,129 40
1797	103,422 50	12,591 45	9,510 34	125,524 29
1798	205,610 00	330,291 00	9,797 00	545,698 00
1799	213,285 00	423,515 00	9,106 68	645,906 68
1800	317,760 00	224,296 00	29,279 40	571,335 40
1891	422,570 00	74,758 00	13,628 37	510,956 37
1803	423,310 00	58,343 00	34,432 83	516,075 83
1863	258,377 50	87,118 00	25,203 03	370,698 53
1804	258,642 50	100,340 50	12,844 94	371,827 94
1805	170,367 50	149,388 50	13,483 48	333,239 48
1806	324,505 00	471,319 00	5,260 00	801,084 00
1807	437,495 00	597,448 75	9,652 21	1,044,595 96
1808	284,665 00	684,300 00	13,090 00	982,055 00

Coinage of the United States—Continued.

MINOR COINAGE.

Period.	Gold.	Silver.	Minor.	Period.
1809	$169,375 00	$707,376 00	$8,001 53	$884,752 53
1810	501,435 00	638,773 50	15,660 00	1,155,868 50
1811	497,905 00	608,340 00	2,495 95	1,108,740 95
1812	290,435 00	814,029 50	10,755 00	1,115,219 50
1813	477,140 00	620,951 50	4,180 00	1,102,271 50
1814	77,270 00	561,687 50	3,578 30	642,535 80
1815	3,175 00	17,308 00	----------	20,483 00
1816	----------	28,575 75	28,209 82	56,785 57
1817	----------	607,783 50	39,484 00	647,267 50
1818	242,940 00	1,070,454 50	31,670 00	1,345,064 50
1819	258,615 00	1,141,000 00	26,710 00	1,425,325 00
1820	1,319,030 00	501,620 70	44,075 50	1,864,786 20
1821	189,325 00	825,762 45	3,890 00	1,018,977 45
1822	68,980 00	805,806 50	20,723 39	915,509 89
1823	72,425 00	895,550 00	----------	967,975 00
1824	93,260 00	1,752,477 00	12,620 00	1,858,297 00
1825	136,305 00	1,564,583 00	14,926 00	1,735,894 00
1826	92,245 00	2,002,090 00	16,344 25	2,110,679 25
1827	131,565 00	2,869,200 00	23,577 32	3,024,342 32
1828	140,145 00	1,575,600 00	25,636 24	1,741,381 24
1829	295,717 50	1,994,578 00	16,580 00	2,306,875 50
1830	643,105 00	2,495,400 00	17,115 00	3,155,620 00
1831	714,270 00	3,173,600 00	33,603 60	3,923,473 60
1832	798,415 00	2,579,000 00	23,620 00	3,401,035 00
1833	978,550 00	2,759,000 00	28,160 00	3,765,710 00
1834	3,954,270 00	3,415,002 00	19,151 00	7,388,423 00
1835	2,186,175 00	3,443,003 00	39,489 00	5,668,667 00
1836	4,135,700 00	3,606,100 00	23,100 00	7,764,900 00
1837	1,148,305 00	2,096,010 00	55,583 00	3,299,898 00
1838	1,869,595 00	2,333,243 00	63,702 00	4,206,540 00
1839	1,355,885 00	2,176,296 00	31,286 61	3,563,467 61
1840	1,675,302 50	1,726,703 00	24,627 00	3,426,632 50
1841	1,091,597 50	1,132,750 00	15,973 67	2,240,321 17
1842	1,834,170 00	2,332,750 00	23,833 90	4,190,753 90
1843	8,108,797 50	3,834,750 00	24,283 20	11,967,830 70
1844	5,428,250 00	2,235,550 00	23,987 52	7,687,787 52
1845	3,756,447 50	1,873,200 00	38,948 04	5,668,595 54
1846	4,034,177 50	2,558,580 00	41,208 00	6,633,965 50
1847	20,221,385 00	2,379,450 00	61,836 69	22,662,671 69
1848	3,775,512 50	2,040,050 00	64,157 99	5,879,720 49
1849	9,007,761 50	2,114,950 00	41,984 32	11,164,695 82
1850	31,981,738 50	1,866,100 00	44,467 50	33,892,306 00
1851	62,614,492 50	774,397 00	99,635 43	63,488,524 93
1852	56,846,187 50	999,410 00	50,630 94	57,896,228 44
1853	39,377,909 00	9,077,571 00	67,059 78	48,522,539 78
1854	25,915,918 50	8,619,270 00	42,638 35	34,577,826 85
1855	28,977,968 00	3,501,245 00	16,030 79	32,495,243 79
1856	36,697,768 50	5,135,240 00	27,106 78	41,860,115 28
1857	15,811,563 00	1,477,000 00	63,510 46	17,352,073 46
1858	30,253,725 50	8,040,730 00	234,000 00	38,528,455 50
1859	17,296,077 00	6,187,400 00	307,000 00	23,790,477 00
1860	16,445,476 00	2,769,920 00	342,000 00	19,557,396 00
1861	60,603,237 00	2,605,700 00	101,660 00	63,400,597 00
1862	45,532,386 50	2,812,401 50	116,000 00	48,460,788 00
1863	20,695,852 00	1,174,092 80	478,450 00	22,348,394 80
1864	21,649,345 00	548,214 10	463,800 00	22,661,359 10
1865	25,107,217 50	636,308 00	1,183,330 00	26,926,855 50
1866	28,313,945 00	680,264 50	646,570 00	29,640,779 50
1867	28,217,187 50	986,871 00	1,879,540 00	31,083,598 50
1868	18,114,425 00	1,136,750 00	1,713,385 00	20,964,560 00
1869	21,828,637 50	840,746 50	1,279,055 00	23,948,439 00
1870	22,257,312 50	1,767,253 50	611,445 00	24,636,011 00
1871	21,302,475 00	1,955,905 25	283,760 00	23,542,140 25
1872	20,376,495 00	3,029,834 05	123,020 00	23,529,349 05
1873	35,249,337 50	2,945,795 50	494,050 00	38,689,183 00
1874	50,442,690 00	5,983,601 30	411,925 00	56,838,216 30
1875	33,553,965 00	10,070,368 00	236,375 00	43,854,708 00
1876	38,176,962 50	19,126,502 50	260,350 00	57,565,815 00
Total	939,081,496 00	180,322,356 40	12,822,538 55	1,132,226,390 95

The "minor" coins were of base silver, nickel, bronze, and copper of various alloys and weights.

STANDARD FOR MONEY IN THE UNITED KINGDOM.

MINUTE ON THE STANDARD FOR MONEY IN THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

By Alex. Del Mar.

What has composed the standard money of the United Kingdom,* from time to time, is a matter of much dispute among writers on the subject.

Mr. Harris wrote a book in 1757 to prove that it had always been of silver and was of silver at the date when he wrote.

Dr. Adam Smith, whose work on the Wealth of Nations was written in 1776 and finished in 1783, regarded silver as the standard of England. In book 1, chapter 5, he remarks:

"But since the reign of Philip and Mary, the denomination of the English coin has undergone little or no variation; and the same number of pounds, shillings, and pence have contained very nearly the same quantity of *pure silver*. This degradation (previously noticed) in the value of the money-rent of colleges has arisen altogether from the degradation in the value of *silver*."

Again:

"In England, therefore, and for the same reason, I believe, in all of the modern nations of Europe, all accounts are kept, and the value of all goods and of all estates is generally computed, *in silver;* and when we mean to express the amount of a person's fortune, we seldom mention the number of guineas, (of gold,) but the number of pounds sterling (of silver) which we supposed would be given for it."

Again:

"It has in most countries, I believe, been found convenient to ascertain this proportion, (the respective values of gold and silver,) and to declare by a public law that a guinea, for example, of such a weight and fineness, should exchange for one-and-twenty *shillings* or be a legal-tender *for a debt of that amount.*"

And again:

"If the regulated value of a guinea, for example, was either reduced to twenty or raised to two-and-twenty *shillings*, all accounts being kept and almost all obligations for debt being expressed in silver money," &c.

* Of the four countries which now compose the United Kingdom, Ireland was annexed A. D. 1172 and governed as a dependency until 1801, when it was formally incorporated into the monarchy and governed directly; Wales was annexed in 1283, at once incorporated into the monarchy, and governed directly; and Scotland was annexed in 1603 and at once governed directly. It was formally incorporated into the monarchy 1707. In speaking of the standard of the United Kingdom, the standard of England and Ireland will be meant from A. D. 1257; that of Great Britain and Ireland from 1283, and that of the entire United Kingdom (including Scotland) from A. D. 1603 to the present time.

With these definite assertions that silver was the standard of England, Dr. Smith coupled the remark, that owing to the undervaluation of silver in the legal, as compared with the market ratio, the silver coin, or such of it as was not deficient in weight, had been melted down or exported, and that, in point of fact, gold coins had become the principal metallic medium of exchange. He says:

"But in the English coin, silver was then (in the reign of William III,) in the same manner as now, underrated in proportion to gold; and the gold coin (which at that time, too, was not supposed to require any reformation) regulated then, as well as now, the real value of the whole coin."

He says, further on in the same chapter:

"But if by rubbing and wearing, 44½ guineas generally contain less than a pound weight of standard gold, the diminution, however, being greater in some pieces than in others, *the measure of value* comes to be liable to the same sort of uncertainty to which all other weights and measures are commonly exposed."

The use of the term "measure of value" in connection with gold, is to be explained by the fact that, at the time Dr. Smith's work was completed, silver coin had been discouraged from remaining in the country by reason of undervaluation at the mint, and not by any words contained in the law. Silver coins, had any one chosen to tender them, would legally have discharged a debt in England in 1783 to any amount.

Lord Liverpool, in his letter written in 1805, claimed that the standard of England had been practically, if not legally, of gold ever since 1717.

Mr. John White, cashier of the Baltimore branch of the Bank of the United States, writes to Secretary of the Treasury Ingham, under date of February 15, 1830, as follows:

"In England the legal value of gold to silver has been, since 1717, 1 to 15.2; but in practice that regulation has been nominal and inoperative; for although during the greater part of that period silver in coin (and coinage was without charge) was a lawful tender at 5*s.* 2*d.* sterling per ounce, *if of full standard weight*, yet the Asiatic demand, antecedent to 1797, having kept the market-price above that of the mint, and an order of council subsequently having forbidden the coinage of silver for individuals, the practical effect heretofore has been similar to the regulation now prevailing, which constitutes gold (for amounts exceeding 25*s.**) the only legal tender in payments." (Ex. Doc. 21st Cong., 1st sess., No. 117, pp. 103–104.)

McLeod, in his Dictionary of Political Economy, says:

"By the reduction of the price of the guinea (in 1717) the value of gold to silver was fixed at $15\frac{1}{6}\frac{4}{8}\frac{2}{2}\frac{9}{0}\frac{5}{0}$ to 1, but as in Holland and France the rate was 14½ to 1, a profit still remained on exporting silver and importing gold. Thus gold became the cheapest medium in which to make payments, and by this means, during the course of the last century, it became gradually an understood thing in commerce that gold was the standard of value. This custom was finally adopted as law in 1816." This author repeats substantially the same thing in his Treatise on Political Economy.

The facts of the case are briefly as follows:

* This limitation is erroneous. Instead of 25*s.* it was £25. The author puts the matter more correctly in another part of his letter: "In 1774, a partial experiment was tried. Silver was made a tender for payments not exceeding £25, and subsequently, in pursuance of the report of Lord Liverpool, viz, in 1816, a further experiment was made by reducing the payments in silver to 40*s.*"—(*Ibid.*, p. 12.)

At the period of the Conquest of England, A. D. 1066, the standard was of silver, and though afterward at intervals gold was coined and ordered to pass current at a fixed legal ratio to silver, the supplies of gold were so small and irregular that the mint or legal ratio was often greatly at variance with the market ratio, if the term market ratio can properly be applied to a country and a period when there were but scant supplies of, and no open market for, the precious metals, and when restrictive laws and royal caprice created the most arbitrary derangements in their relative value. In consequence of these circumstances, silver remained practically and substantially the sole standard of England up to the year 1717, when Sir Isaac Newton reformed the mint regulations.

At this period Europe had long been supplied with shipments of the precious metals from the Spanish mines in America, and much of the gold found its way to England and other nations in the north of Europe, which now were taking the lead in maritime commerce.

When this reform took place, gold and silver from the Spanish-American mines had found their way, at first through Spain and Portugal, and afterward through the English and North German ports, to all parts of Europe, and a market ratio, more or less universal and constant, between the metals, had become established in the principal trading-centers.

This ratio Newton calculated to be, on the average, about 1 to 15, and he established a double standard of money at the relation of 1 to about 15.2, throwing the mints of England open to the unrestricted coinage of both metals, which thus became legal-tenders to an unlimited amount.

A series of interdictions, dating from the 9th Edward III, and continuing until the 13th and 14th Charles II, upon the melting or exporting of gold or silver continued throughout this period, until they were abolished in 1819 by the act 59 George III, ch. 49, sections 10 and 11.

No change occurred in the above-recited condition of affairs until the year 1774, when, as stated in the preamble to the act, in consequence of the worn and clipped condition of the silver coins, they could be refused when tendered in payment of debt above £25, unless of full weight. If of full weight, the silver coins continued to be unlimited legal-tender as before.

The act of 14 George III, ch. 42, 1774, was to continue in force "until the 1st day of May, 1776, and from thence to the end of the then next session of Parliament." The act was continued by 16 George III, ch. 54, section 2, (1776,) to May 1, 1778, "and from thence to the end of the then next session of Parliament." It was further continued by 18 George III, ch. 45, (1778,) to May 1, 1783, "and from thence to the end of the then next session of Parliament." The session of Parliament, which included May 1, 1783, was the third session of the fifteenth Parliament. The next session thereafter was the fourth session of the fifteenth Parliament, which began November 12, 1783, and ended March 25, 1784. As the act of 14 George III was not renewed up to this date, *it expired by limitation, i. e.*, on March 25, 1784. Its expiration is admitted in the preamble to 38 George III, ch. 59, (1797.) By this act, however, it was "revived and shall continue and be in force until the 1st day of June, 1799."

By this act also, and owing "to the present low price of silver bullion," *the coinage of silver at the mint was suspended.* By the act of 39 George III, ch. 74, (1798,) the £25 legal tender of light silver coin was made perpetual.

It will thus be seen that the double standard of full-weighted gold

and silver coins, with unrestricted coinage and unlimited legal tender for both metals, continued up to 1797, when free coinage for silver was suspended, the coins outstanding, however, remaining full legal tender, if of full weight.

On the 26th day of February, 1797, the Bank of England, having circulating notes outstanding to a very great amount, and enjoying a substantial control and almost monopoly of the bank-note circulation of Great Britain, was restricted by the government from making cash or specie payments, and thereafter, for a period of twenty-four years, a general suspension of specie payments ensued, and continued throughout the United Kingdom.

"The law which restricted the bank from paying its notes in cash went only to the length of exempting the corporation from being liable to summary process by the holders of the notes. It did not confer the privilege of legal tender on the notes of the Bank of England. A tender of payment in Bank of England notes had the effect only of exempting a debtor from liability to arrest; but it did not preclude the creditor, if he objected to such mode of payment, from pursuing his claim by ordinary process of law. As during two years following the restriction act a payment in bank-notes was fully equivalent in value to a payment in coin, and as, until 1809, the depreciation of the paper of the bank was inconsiderable, there was no hesitation on the part of creditors, or of the public generally, to receive notes in payment. Indeed, I do not recollect any instance during that interval of holders of bank-notes claiming payment of them by process of law as for a debt; or of any creditor refusing to accept bank-notes in satisfaction for his claim.

"But the great fall in the exchanges in 1809 and 1810, and the consequent (*sic*) rise in the price of gold measured in bank-paper, brought into notice the remedy still subsisting in favor of the creditor. And Lord King, who was a zealous opponent, on principle, of the restriction act, brought the question of the exact state of the law on the subject to an issue by a notice which he gave to his tenants, to the effect that he would in future require them to pay their rents in gold, or in the amount of bank-notes which might be required to purchase the gold. An act originating in the House of Lords, and known as Lord Stanhope's bill, was in consequence passed in July, 1811, which had the effect of putting a stop to claims for payment of gold."—(*Tooke's Hist. Prices*, i, 521, 522.)

The act referred to is the 51st George III, ch. 127. It extends to England and Scotland, and not to Ireland, and is limited to March 25, 1812.

By the act of 52 George III, ch. 50, section 8 *et seq.*, (May 5, 1812,) the same provisions are extended to all parts of the United Kingdom, and applied likewise to the notes of the Bank of Ireland throughout Ireland, and limited "to and until three months after the commencement of the next session of Parliament, and no longer."

By the act of 53 George III, ch. 5, December 22, 1812, the foregoing provisions were extended to March 25, 1814.

By the act of 54 George III, ch. 52, May 4, 1814, the foregoing provisions were revived retroactively from March 25, 1814, and "from thence during the continuance of any act imposing any restriction on the governor and company of the Bank of England with respect to payments in cash."

It is as well, perhaps, to repeat in this place, that, previous to the bank restriction and suspension, to wit, from 1717 until 1797, the double standard of gold and silver existed in England at the ratio of 1 to 15.2,

and that the mints were open unrestrictedly to the coinage of full legal-tender silver and gold; that during a portion of such restriction and suspension, to wit, from 1797 until 1816, although the free coinage of silver was suspended, silver coins of full weight, viz, weighing five shillings and twopence per ounce, continued to be full legal tender for the payment of debts; and that the limitation of legal tender to £25 in silver coin which was imposed from 1774 to 1784, and again from 1797 thenceforward perpetually, applied solely to silver coin which might be deficient in weight. However, during the bank restriction and suspension, to wit, in 1816, by act 56 George III, ch. —, the legal tender of all silver coin was limited to forty shillings, and thereafter and up to the present time, except as to the privilege extended to the Bank of England to keep one-fourth of its reserve in silver, the legal tender of silver has been so limited and the free coinage of silver suspended. (Act 7 and 8 Victoria, ch. 32, section 3.)

By the act making provision for the resumption of specie payments in the United Kingdom, (59 George III, ch. 48,) dated July 2, 1819, the bank was permitted to pay its notes in gold bullion instead of coin, and at the following-named rates of premium over par for all sums of notes equal in value to not less than sixty ounces of gold in ingots or bars:

Period.	The ounce of gold bullion to count in notes for—			Equal to a premium, percent., of—
	£	s.	d.	
February 1, 1820, to September 30, 1820	4	1	0	4.18
October 1, 1820, to April 30, 1821	3	19	6	2.25
May 1, 1821, to April 30, 1823	3	17	10½	0.16.
Thereafter	3	17	9	Par.

These provisions enabled the bank, to the extent that it might elect to take advantage of them, to resume specie payment at a discount under par varying from 4.18 per cent. to a small fraction, (0.16 per cent.,) the ounce of gold bullion being worth but £3 17*s.* 9*d.*, (act of August 31, 1844, § 4,) whilst the mint-value of coined gold is £3 17*s.* 10½*d.* according to law.

A general resumption upon these terms took place in the United Kingdom May 1, 1821, and that state has ever since retained the single gold standard for money as modified by the provision of the bank-charter act of 31st August, 1844, which permits the bank to hold 25 per cent. of its reserve in silver; a provision that has never been repealed and is still in force.

In considering the effects of this complex and artificial system upon the relative value of silver and gold it must be borne in mind that, as before stated, British coined gold was forbidden by various ancient statutes to be exported from the country, and a difference of 4*s.* per ounce existed between the price of exportable and non-exportable gold during the suspension and up to July 2, 1819, (59 George III, ch. 48, § 10,) when such ancient statutes were all repealed.

From year A. D.	Regnal year.	To the year A. D.	Standard.	Remarks relating to the interval.
1066	1 William I....	1257	Silver.....	Bank of Venice A. D. 1157. Paper notes in Milan A. D. 1240.*
1257	41 Henry III....	1717	Frequent changes	Discovery of America, 1492.
1717	4 George I.....	1774	Double at 15.2.....	Newton's reform of coinage.
1774	14 George III...	1784	Double at 15.2. Light-weighted silver again limited to £25.	Bad condition of silver coins.
1784	25 George III...	1797	Double at 15.2. No limit to silver	Intermission of law regarding light-weighted silver coins.
1797 } 1798 }	38 and 39 George III.	1816	Double at 15.2. Light-weighted } silver again limited to £25. }	{ Suspension of specie payments. { Suspension of free silver coinage.
1816	56 George III...	Perpetually.	Gold. Silver limited to 40*s*	Ancient interdictions on export of precious metals removed.
1821	61 George III...	.....	Same provisions	Resumption.

* At the period of the establishment of banks in Italy, that country "had drawn to itself almost the whole of the gold of Europe." (Lord Liverpool's letter, p. 224.) The establishment of these banks and the use of paper notes at Milan in A. D. 1240, as well as the wars in Italy and Spain, (the latter a country also abundantly supplied with gold during the Saracenic Khalifates, Draper's "Conflict,") had the effect, it is supposed, of rendering gold more plentiful in England, which, at that period, had founded a valuable export trade in tin, wool, woolens, &c.

MONETARY SYSTEM OF AUSTRIA-HUNGARY.

MINUTE ON THE MONETARY SYSTEM OF THE AUSTRO-HUNGARIAN EMPIRE.

By Alex. Del Mar.

Authorities: Chevalier Henri Storch, The Journal des Economistes, Kelly's Cambist, Essay by Max Wirth of Vienna, Diplomatic Correspondence of United States Monetary Commmission.

The accounts relative to the history of the monetary system of Austria which are accessible to the American student are rather meager, particularly those which treat of the system prior to the emission of assignats in 1867. This, it is hoped, will be a sufficient apology for the fragmentary character of the earlier portion of the following data.

Silver has been the metallic basis of the monetary system of Austria for many centuries.

In 1762 some sort of paper-money was put into circulation in Austria.

In 1793 was established the Bank of Vienna. This bank was authorized to issue circulating notes, whether made legal tender or not, is not stated, but it is believed not. Nor do any accounts within reach exhibit what relations, if any, existed between the government and the bank. Some time before the year 1816, the bank suspended specie payments.

In 1816 the Austrian National Bank was established.

In 1848 the Austrian National Bank was accorded the exclusive privilege of emitting bank-notes in Austria and Hungary. It would appear that at the period of this privilege or before it, the bank had suspended specie payments; for although up to February, 1848, the notes stood at par in silver, they were at a slight discount during the course of that month.

In June, 1848, the premium on silver in bank-notes was 17 per cent.

In August, 1848, the premium fell to 6½ per cent.

After the breaking out of the war with Hungary, in September, 1848, the premium rose to 22 per cent., and upon the conclusion of peace, in September, 1848, it fell to 7 per cent.

Upon the occurrence of the Prussian imbroglio, in 1850, it rose to 33 per cent.

In 1853 the premium was at 8 per cent.

In 1854, upon the breaking out of the Crimean war, the emissions of the bank were increased, and the premium rose to 39 per cent.

In 1856 the emissions of the bank were still further increased. Notwithstanding this fact, the premium on silver was only 1¾ per cent.

In 1857 it was 8 per cent.; in December, 1858, it was 1⅛ per cent.; and an unsuccessful attempt was made to resume. In 1859 it was 40 per cent.

These scattered data probably represent only extreme points of fluctuation.

In 1861 the emission of bank-notes reached its maximum, viz, 483,300,000 florins, or about (nominally, at 45 cents per florin) $217,500,000. The metallic reserve was only 90,000,000 florins, or $40,500,000. The premium on silver rose to 50 per cent.; average 41¼.

In 1862 the range of the premium was from 17 to 39, and the average 28 per cent.

From the year 1863 to nearly the end of 1876, inclusive, very complete data concerning the emission of bank-notes and the premium on silver is furnished by the official authorities of the Austrian empire, in a communication on the subject to the United States Monetary Commission. From this data it appears that the average amount of the notes of the bank outstanding was, in 1863, 397,700,000 florins; in 1864 it was 386,400,000 florins, and in 1865, 350,400,000 florins, and that the average price of silver in bank-notes was, in 1863, 113.8; in 1864, 115.7; and in 1865, 108.3. See Diplomatic Correspondence.

In 1866, the average emission of bank-notes during the year was 316,300,000 florins, or say $142,300,000. Range of premium on silver, 2¼ to 33 per cent.; average, 20.

In May, 1866, a month before the declaration of war with Italy, an emission of government assignats was authorized. The first issue amounted to 116,600,000 florins, and this was almost continually increased until it reached 379,000,000 in 1873. Average emission in 1866, 158,300,000 florins.

This is the first unequivocal statement of an emission of legal-tender notes; though it is difficult to understand how the bank-notes could have continued in circulation at such a fluctuating and often very heavy discount in silver, unless their circulation was in some manner rendered compulsory.

It appears that the charter of the bank requires (since what date is not mentioned) that, beyond the sum of 200,000,000 florins, its emissions must be covered by specie, and that, at the present time at least, this requirement is complied with.

By the termination of the war in July, 1866, the emission of assignats amounted to 215,300,000 florins, say $97,000,000.

The following table exhibits the average amount of circulating paper outstanding in the Austrian Empire annually since 1866, the premium on silver in notes since 1866, and the premium on gold in notes since 1873.

Table showing the circulating paper and the premium on gold and silver, severally, in notes, annually since 1866.

Sums in the 2d, 3d, 4th, and 7th columns, in millions of florins.

Year.	Bank-notes.	Assignats.	Total notes.	Premium on silver.	Premium on gold.	Bank reserve.
1866	316.3	158.3	474.6	19.84	.....	.....
1867	243.8	270.2	514.0	24.31	.....	.....
1868	245.7	297.1	542.8	14.48	.....	.....
1869	294.1	305.3	599.4	21.02	.....	.....
1870	287.8	326.2	614.0	21.89	.....	.....
1871	296.4	361.6	658.0	20.38	.....	.....
1872	309.1	376.0	685.1	9.27	.....	.....
1873	334.9	367.7	702.6	8.14	11.1	.....
1874	313.8	332.0	645.8	5.25	11.1	.....
1875	296.1	339.0	635.1	3.21	11.2	.....
1876*	296.3	†354.3	650.6	2.66	21.12	‡136.6

* First ten months of 1876. † October 1, 1876. ‡ Of this amount 67 million in gold.

The limit to the emission of state assignats is fixed at 312,000,000 florins, but, in addition to this, notes may be issued in place of certain negotiable mortgages to the extent of 100,000,000, making the whole possible emission of assignats 412,000,000 florins, or, say, nominally $185,400,000. The actual emission in October 1, 1876, was 354,300,000 florins, or, say, nominally $159,435,000.

These, added to the bank-notes, make a total circulation of paper amounting to 650,600,000 florins, or, say, nominally $292,770,000 in American silver.

The customs-duties of the Austrian Empire are payable in silver, and amount annually to about 20,000,000 florins, or, say, $9,000,000.

CHINA.

MINUTE ON THE MONETARY SYSTEM OF CHINA.

By Alex. Del Mar.

Authorities: Bernardakis, Williams, Kelly, and Eckfeldt and DuBois.

Copper coins, B. C. 1120.—In China copper or bronze coins have been in use from the most ancient times. They were first cast (not struck) about the year B. C. 1120, at the beginning of the Chau dynasty. Their shape was as now, round, with a square hole in the center for the convenience of stringing them.

Ancient silver and gold coins.—Silver and gold coins were both coined in China in ancient times; but their history is involved in obscurity. None have been coined by the government in modern times.

Private coins.—Since the establishment of foreign trade certain quasi-governmental and private coinages of silver have taken place, of which the following is a brief sketch:

First. A coinage of dollars, in imitation of the foreign silver dollar, was allowed by government, and conducted under the authority of a provincial treasurer. At first they exceeded the foreign dollar in weight or fineness, but were afterward debased. The government then forbade any further coinage of them; but, according to the common report among native Chinamen, their manufacture is still carried on. The principal place of manufacture is the district of Shunteh, south of Canton, and as many as one hundred workmen are frequently employed at the work. Every kind of adulteration, debasement, filling in, and coating over is practiced.

Second. In 1838 the provincial treasurer of Fuhkien issued a native silver coin about the size of a Spanish dollar. Weight by treasury scales, 7 mace 2 candareen, or 0.72 taels. In 1842 this piece had depreciated in weight. In 1845, it was 5 per cent. under weight.

Third. In 1844 an attempt was made at Changchau, near Amoy, to coin silver dollars. The first issue weighed 7.4 mace, but subsequent issues fell off 15 per cent., and all of them vanished from circulation.

Paper money, B. C. 119.—Forced paper money was issued by the government of China as early as B. C. 119, and probably very shortly after the invention of paper itself. Previous to that epoch representative money is mentioned as having been stamped or written upon parchment.

Iron coins.—Iron coins were employed in China at an early date, not specified, but certainly before the ninth century of our era.

Deposit-notes, A. D. 807.—In the year 807, the Emperor opened deposit-banks for copper or iron coins, for which the depositors received sight-notes payable to bearer, called *fei-tsien*, or flying money. After a time the credit of these notes depreciated, probably from overissues, in the year 845. The Nestorian Christians, who had entered China some two

centuries before, were proscribed and driven out, and they may have carried the invention of paper and paper money into Italy, where the latter shortly afterward appeared.

A. D. 907.—In the year 907 the deposit-banks were revived by the Emperor, and during the succeeding half-century some $4,500,000 worth of the overissues called in. The deposit-notes continued in favor for three centuries, until the period of the Yuen or Mongol dynasty, when assignats were issued by the imperial government.

A. D. 1275.—Toward the end of the thirteenth century, Kublai Khan, the first Mongol Emperor of China, issued assignats which were made legal tender for the payment of all debts, public and private. A full account of this paper money is given in Marco Polo's Travels in China.

A. D. 1368.—A fac-simile of a paper note issued under the Ming dynasty, about a century later, is published in a recent volume of Harper's Magazine. A Mohammedan traveler, Chuk-Ibn-Batoutah, who visited China about the middle of the fourteenth century, says of the inhabitants: They use in their commercial transactions neither gold nor silver, but stamped pieces of paper, of which 25 are called *balicht.*

A. D. 1853–1854.—Iron coins and small assignats, issued by the imperial government in lieu of copper coins. A few tons, only, of the former were put in circulation, when they were withdrawn.

The present system.—Turning from these scattered historical data to the condition of affairs at present, it may be stated, briefly, that the only legal-tender money in China is of copper, and that copper coins are receivable for all payments except the following:

1. The imperial taxes and duties, which, when not payable in kind, as in rice, are payable in pure silver, or its equivalent in copper coins at market-price.*

2. Payments stipulated to be made in silver, which is the case in all transactions with foreigners, and, it may be added, in perhaps all large transactions in the sea-port towns opened to foreign trade. These payments of silver are always in foreign coins, chiefly Spanish, Mexican, and North and South American dollars; though sometimes they are in ingots, and sometimes in broken fractions of dollars.

Besides the above-mentioned currency, ingots of gold are sometimes employed for money in large transactions.

There are also paper notes in circulation, one series based upon copper coins, and another upon silver. These will be further alluded to under the proper head.

The system, as a whole, if system it may be called at all, is practically and commercially a triple standard without legal regulation, native coinage for gold or silver, or effective governmental supervision over the copper coinage; and vitiated by eccentric issues of forced and credit notes.

A curious feature of the coinage is to be observed from a comparison of such of the coins as can be found described in the authorities referred to. This is the fact that, contrary to the course of gold and silver coins in the Western World during the Middle Ages, the copper coins or *cash* of China, during the past century, have been gradually increased in weight. Thus the *cash* issued in the year 1741 appear to have weighed from 17.4 to 23.2 Troy grains each, while those of a later date, not specified, weighed 44 grains, and those of a recent date, not specified, weighed 68 grains.

*In the reign Taukwang, 1821–1851, the government bankers indemnified themselves for the depreciation in the copper coins by making the tax-payers add 40 per cent. to render them equivalent to Sycee silver.

Chinese coins, copper standard.

Date of emission.	Reigning Emperor.	Composition of copper cash.				Weight of one cash, Troy grains.	Their current value in silver, cents.*
		Copper, per cent.	Zinc, per cent.	Lead, per cent.	Tin, per cent.		
1644	Shunchi	70	30	None.	None.	(?)	(?)
1741	Keinlung	50	41½	6½	2	(?)	(?)
——	do	79	10	7	4	(?)	(?)
——	do	60 to 90			10 to 40	17. 4 to 23. 2	(?)
1862†	Tankwang						.29 to .34
"Older pieces" ‡						44	
"Modern pieces"						68	.125

*Cent, the one-hundredth part of a Spanish silver piaster or dollar of the period. †Ten-cash pieces issued by the city of Pekin. ‡Eckfeldt and Du Bois.

As the appreciation of the copper standard of China seems to have followed and not preceded the gradual decline in the commercial value of copper, zinc, &c., it is to be regretted that the facts concerning it cannot be so multiplied as to afford a sound basis of theory. If they could, they might lead to some interesting inferences regarding the influence of such a currency upon the welfare of the empire and the effects of refusing it the function of legal tender in so important a respect—more important in China than perhaps in any other great country—as the payment of the imperial and provincial taxes.

It may be added that large quantities of irregular copper coin or *cash* are in circulation, some of them manufactured by provincial authorities or influential private parties and some issued by counterfeiters. They are generally debased by admixtures of iron-dust or fine sand, and present a gritty appearance to the eye.*

CHINESE CURRENCY—FOREIGN SILVER.

For the purposes of taxation and of foreign trade the currency of China consists of silver.

Fine silver is called in Chinese *wän-yin*, but this is not the standard which appears to be practically employed. The practical standard is *sycee*, which is variously defined by numerous cambists, most of whom, however, admit that it is silver of uncertain fineness and never entirely pure.

The fact about the matter appears to be that sycee is that silver of which Mexican and some South American dollars are composed, viz, silver containing a small amount of gold, generally about 3 to 5 per cent., the silver and gold together forming about 96 per cent. of the entire weight of the coin. The presence of gold in the coins named is due to the fact that the native silver of the countries which strike them contains traces of gold, which the imperfect processes in vogue there do not permit of being extracted with profit.

The indefiniteness of such a standard, together with the following circumstances which exist in China, produce so great a confusion in the relative valuation of the foreign silver coins which circulate there as to render it useless for the purposes of this Minute to examine the subject any further:

1. The weights employed to weigh silver in China differ in every

*At Canton in 1854 1,900 ordinary cash or 1,800 picked ones went for a silver tael; in 1863 only 1,350 to 1,400 of the same. At Amoy in 1850 a Spanish dollar would purchase 3,600 cash of the poorest kind, but only 1,300 select ones, or 1,560 current ones, as they ran on the strings. At Canton, in 1862, a dollar brought 1,200 current cash, and at Shanghai 1,750. In 1863, at Canton, Amoy, and Shanghai the silver dollar exchanged for 1,100, 1,050, and 1,100 current cash.

province. In the capital itself five kinds of "scales" are recognized, in each of which the *tael* or Chinese ounce differs. For example, the "market-scales" tael, used in common transactions, weighs 548 troy grains; the "Pekin-scale" tael weighs 541 grains; the "legal-scales" tael, used in exchanging silver, weighs 552 grains; the "two-tael" or "old-scales" tael, used in buying commodities, weighs 539 grains; and the "treasury-scales" tael, used in collecting the public revenues, weighs 579 grains. This last is the same as the standard recognized at Canton. Besides these, the bankers at the capital recognize a different value for the money-tael at the cities of Tung-chau and Tientsin near them; another at Súchau, current throughout the province of Kiangsú; and a fourth called Canton weights, of which tael there are four rates, respectively indicated by the decimals .995, .996, .997, and .998 of the tael by the standard treasury scales at the capital.

2. Particular dollars and particular coinages of such dollars appear to be arbitrarily preferred by the Chinese, and accorded a value in relation to others of apparent similitude. This is mainly due to habit; but it may also in part be due to the fact, not generally known to Europeans, that, as before stated, particular silver coins of Western manufacture contain an appreciable alloy of gold.

As a mean, it may be stated that the *tael* consists of about 580 troy grains, and that from 715 to 720 taels of fine silver are reckoned to one thousand Spanish dollars. This would give as an approximate relation $1.60 American silver to the tael.

CHINESE CURRERCY—GOLD INGOTS.

Gold ingots of an oval form called shoes are sometimes, though rarely, employed in payments, though at precisely what relation to silver is not known.

CHINESE CURRENCY—PAPER.

There are several sorts of paper money current in various parts of China. None of these are at present issued by the imperial government. The provincial authorities sometimes issue paper notes. Whether these are always made legal tender or not, is doubtful. Those issued by the city of Pekin are based on the copper *cash*, are legal tender, and are issued in excess; so that 10 *cash* in copper are equivalent to 20 in paper, and a 1,000-*cash* note in paper is worth only 490 *cash*. During the course of the year 1862, a Mexican silver dollar fluctuated in exchange from 5,900 to 7,000 *cash* in these municipal assignats, but such extreme fluctuations are unusual.

The mass of the paper circulating in China is issued by private banks, of which there are in Tientsin alone over three hundred, all issuing them. The denominations range in nominal value from 100 to 10,000 *cash;* they are based on copper and are not worth in exchange for copper coins more than one-half their face value; showing overissue. Their circulation is limited to the neighborhood of the bank, and, notwithstanding their depreciation, they form together a large portion of the circulation of the country.

Small paper notes have been shown to the writer having an exchangeable value of some ten or twelve cents in silver; these also are circulated in some of the Chinese cities, not stated by whom or on what terms.

Besides these, the foreign banking-houses located in China issue notes payable respectively in copper or silver, and ranging in value from 300 *cash* (copper) to 1,000 taels (silver); those above 50 taels being rather promissory notes than bank-bills.

There are no mints for silver or gold in China.

PAPERS

COMMUNICATED BY

THE MINISTERS OF THE UNITED STATES IN FOREIGN COUNTRIES.

DIPLOMATIC CORRESPONDENCE.

AUSTRIA-HUNGARY.

A.—Minister Beale to Secretary of State.
B.—Minister Beale to Count Andrassy.
C.—Minister Beale to Count Andrassy.
D.—Count Andrassy (by the Baron d'Orczy) to Minister Beale.
E.—Monetary system of the Austro-Hungarian Empire. Minute from the Austrian Foreign Office.
E.—Appendices 1, 2, 3, and 4, omitted on account of length.
E.—Appendix 5.—Coinage 1873–'76.
E.—Appendix 6*a*.—Paper money 1863–'75.
E.—Appendix 6*b*.—Course of silver 1861–'74.
E.—Appendix 6*c*.—Prices of gold and silver 1873–'76.
E.—Appendix 6*d*.—Imports and exports of gold 1867–'76.
E.—Appendix 6*e*.—Imports and exports of silver 1867–'76.

A.

LEGATION OF THE UNITED STATES,
Vienna, January 8, 1877.

SIR: Referring to your dispatch No. 5, dated 30th August, and your circular 18th September last, I beg to advise you that, in pursuance of the instructions therein, I addressed to the imperial and royal ministry for foreign affairs two notes soliciting its intervention for obtaining the desired information, and I am this morning in receipt of a response to the same. I herewith transmit, through the United States consulate at Hamburg, the documents therein referred to.

I herewith inclose copies of my notes, and of the response thereto, with translation.

I have the honor to be, sir, your most obedient servant,

E. F. BEALE.

Hon. HAMILTON FISH,
Secretary of State, Washington.

B.

LEGATION OF THE UNITED STATES,
Vienna, October 20, 1876.

The undersigned, envoy extraordinary and minister plenipotentiary of the United States of America, has the honor to inform his excellency the Count Andrássy, minister of the imperial house and imperial and royal minister for foreign affairs, that he has been advised by the

NOTE.—On account of the length of some of the documents many had to be omitted.

honorable Secretary Fish that a letter had been received from the Secretary of the Treasury requesting information upon the following points; and the undersigned has been requested to obtain, if practicable, such information:

1. What is the amount of gold coin and bullion in the Austrian Empire?
2. What is the amount of silver coin and bullion?
3. What is the discount of paper money as against gold and silver respectively?

The undersigned respectfully solicits from his excellency replies to the foregoing inquiries, so far as he may be enabled to communicate the desired information.

The undersigned avails himself of the occasion to renew to his excellency the assurance of his distinguished consideration.

E. F. BEALE.

C.

LEGATION OF THE UNITED STATES,
Vienna, October 21, 1876.

The undersigned, envoy extraordinary and minister plenipotentiary of the United States of America, has the honor to inform his excellency the Count Andrássy, minister of the imperial house and imperial and royal minister for foreign affairs, that he has been advised by the honorable Mr. Secretary Fish that a concurrent resolution of the Congress of the United was passed on the 15th August last, as follows:

"*Resolved by the Senate and House of Representatives*, That a commission is hereby authorized and constituted, to consist of three Senators, to be appointed by the Senate, three members of the House of Representatives, to be appointed by the Speaker, and experts, not exceeding three in number, to be selected by and associated with them, with authority to determine the time and place of meeting, and to take evidence, and whose duty it shall be to inquire—

"First. Into the change which has taken place in the relative value of gold and silver; the causes thereof; whether permanent or otherwise; the effects thereof upon trade, commerce, finance, and productive interests of the country, and upon the standard of value in this and foreign countries;

"Second. Into the policy of the restoration of the double standard in this country; and, if restored, what the legal relation between the two coins, (metals,) silver and gold, should be;

"Third. Into the policy of continuing legal-tender notes concurrently with the metallic standards, and the effects thereof upon the labor, industries, and wealth of the country; and

"Fourth. Into the best measures for providing for facilitating the resumption of specie payments.

"And said commission is authorized to employ a stenographer, and shall report on or before the fifteenth day of January, eighteen hundred and seventy-seven, with the evidence taken by them, and such recommendations for legislation as they may deem proper."

The undersigned has been further advised that such commission has been constituted and has prepared a series of interrogatories to be submitted to the representatives of the United States in foreign countries.

The undersigned has been instructed to cause the said interrogatories,

of which copies are inclosed, to be submitted to the chief officers having charge of the mint or mints in Austria-Hungary, and to request that answers thereto may be returned to him as promptly as possible.

The undersigned is instructed at the same time that further information upon the subject will be most acceptable and thankfully received.

The undersigned accordingly solicits the courteous aid of the imperial and royal ministry for foreign affairs in this matter, and respectfully asks that answers to the said interrogatories and any further information upon the subject may be communicated to him with the least possible delay, in order that he may be enabled to transmit the same to the State Department for the use of the commission, which is required to report to Congress in the early part of its next session.

The undersigned avails himself of this occasion to renew to his excellency the assurance of his distinguished consideration.

E. F. BEALE.

D.

[Translation.]

In compliance with the desire expressed in the esteemed notes of the 20th and 21st October last, Fo. 3 and Fo. 4, the imperial and royal ministry for foreign affairs has the honor to place at the disposal of the envoy extraordinary and minister plenipotentiary, Mr. Edward F. Beale, a document, with appendices attached thereto, containing answers to the points of inquiry addressed by the commission appointed in Washington for the study of coin and currency relations.

As regards the desired information relative to the production of gold and silver from the mines in Austria-Hungary, (points F and 8 of the questions,) the imperial and royal ministry has made application in this matter to the imperial and royal ministry of agriculture, which is prepared to furnish the desired information, and the imperial and royal ministry for foreign affairs intends to communicate the same to the envoy as soon as the same shall be received by it.

In conclusion, the imperial and royal ministry beg to present its request that the result of the investigations of the said commission may be courteously communicated to this ministry.

The undersigned avails himself of this occasion to renew to the envoy the assurance of his distinguished consideration.

Vienna, 5th January, 1877.

For the minister for foreign affairs.

ORCZY.

E.

MONETARY SYSTEM OF THE EMPIRE.

A minute communicated by the Austro-Hungarian foreign office to the United States minister at Vienna.

According to the imperial decree, issued September 19, 1857, the legal standard of coinage in the Austro-Hungarian Empire is based upon silver coin, with the florin as unit, of which there are forty-five to the pound of 500 grains of fine metal. Gold, as coin, is made use of merely

in commerce. The document No. 1, annexed to this communication, containing the transactions of the special commission for the consideration of the subject of coinage, from April 10 to 14, 1867, furnishes more detailed information on particular coins, their content of pure metal, alloyage, &c. The same document also gives evidence of how far the Austro-Hungarian Monarchy participated in the movement having for its object the introduction of a universal unification of coinage, based upon the franc as a unit. The practical results of this effort, in our country, brought about the coinage of pieces of gold of the value of 8 and of 4 florins, equivalent to the French coins of 20 and 10 francs, respectively, used in trade. The law issued in reference to this transaction, dated March 9, 1870, is annexed to this communication in the second appendix. Changes also occurred in the issue of small silver coin, as will be seen in appendix No. 3.

In the Austro-Hungarian Empire the coinage of money is intrusted to public offices exclusively, and no lease is granted to private parties for issuing coin. The execution of controlling the due weight and size of coins is entirely independent of the mint-offices and placed under the immediate supervision of the department of finances, forming a separate division, as the general assay-office.

Appendix No. 4 contains the tariff for the redemption of gold and silver, wholesale and retail.

In appendix No. 5 an estimate of all the issues of coinage of gold, silver, and copper from 1813 to the end of September, 1876, in the Austro-Hungarian Empire, is annexed.

In connection with this information, it is to be remembered that the specie payments of the bank are occasionally suspended, and that in consequence of the events of the war of 1866 the state also issued a compulsory currency of paper money.

In reference to the notes issued by the bank, the amount of 200,000,000 florins is allowed in bank securities. Beyond this sum, all amounts must be fully covered in gold or silver, either in coin or bars. This ordinance is complied with even at the present time, in spite of the temporary suspension of the redemption of notes. The present value of metal in the bank amounts to 136,597,398 florins, (Austrian standard,) of which over 67,000,000 are in gold. Bills on London to the amount of £311,185,094 are the only ones in possession of the bank.

The maximum circulation of treasury-notes, as fixed by law, amounts to 312,000,000 of florins. The mortgages issued on the salt-works of Gmünden, Aussen, and Hallein for 100,000,000 florins, incorporated and bearing interest, may, however, be substituted also by treasury-notes in proportion to their reversion, so that the maximum of these notes may possibly reach the amount of 412,000,000 florins, a result which, however, is not attained, as mortgages to a considerable amount are kept in constant circulation; at present, for instance, for not less than about 58,000,000 florins.

On account of the predominance of paper-money still prevailing at the present time, we are isolated to a certain extent from the great metallic market. The fluctuations of value of gold and silver are, nevertheless, also felt in our country, and, in connection with these, the percentage devolving on the difference of value between paper-money and specie is also to be taken into consideration. This percentage, moreover, is subject to great fluctuations, as the maximum in circulation is influenced by political relations, the financial condition, the trade of exports, &c.

Appendix No. 6 contains information on the circulation of paper-money from 1863 to 1875, the average course of silver for the period

from 1861 to 1874, the difference of price of gold and silver from 1873 to the end of October, 1876, and, finally, on the export and import of gold and silver from 1867 to September, 1876, inclusive. In reference to the present circulation of paper-money, it may be stated that the following amounts were in circulation November 30, 1876:

	Florins.
A. In bank-notes	296,256,810
viz: In sections of 10 florins	120,032,510
In sections of 100 florins	96,035,300
In sections of 1,000 florins	80,189,000
B. In treasury-notes, (lit. state-notes)	354,328,694
viz: In sections of 1 florin	77,325,929
In sections of 5 florins	111,777,565
In sections of 50 florins	165,225,200

Custom-duties are levied in silver. Their annual amount may be rated at 20,000,000. In connection with this subject, it may be stated that it is our intention, for the future, to make these duties payable in gold. Appendix No. 7 will furnish the information necessary in regard to the nature of foreign coins which will then be received in payment of duties.

In relation to coinage for foreign governments, it may be stated that the general mint-office in Vienna has also issued silver coin for the government of the principality of Servia, in which transaction 25,050 kilograms of pure silver were furnished.

It is exceedingly difficult to give somewhat reliable information about the real value of gold and silver in plate, jewelry, and other articles of industry. The offices intrusted with the superintendence of the contents of gold and silver in manufactured articles might be the best authorities for giving information on this subject. According to an estimate made by the general office (the general stamp-office?) in Vienna, the value of these articles may be rated at, in Austria, 62,700,000 florins for articles in gold and 56,200,000 florins for articles in silver; in Hungary, 8,100,000 florins for articles in gold and 7,300,000 florins for articles in silver. It must be observed, however, that articles manufactured in times more remote, and hence not under the control of the general stamp-office, are counterbalanced by those manufactured in foreign countries.

In conclusion, it must also be mentioned that the greatest attention is given to the restoration of a standard value in specie, so that a greater demand for fine metal may be expected from the Austro-Hungarian monarchy at some time not far distant in the future.

APPENDIX E 5.

Übersicht der in Österreich-Ungarn vom Jahre 1813 bis Ende September 1876 stattgefundenen Gold-, Silber- und Scheidemünzen-Prägung.

	Goldmünzen.																		Zusammen.	
																			fl.	kr.
In den Jahren 1813 bis 1857	Conventions-Währung																		253,787,003	40
	Österreichische Währung.																			
	Kronen.						Goldgulden.						Dukaten.							
	Ganze.		Halbe.		Summe.		Ganze.		Halbe.		Summe.		Vierfache.		Einfache.		Summe.			
	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.		
Im Jahre 1857																				
" " 1858	1,067,220	00	307,599	75	1,374,819	75							469,239	74	3,551,575	14	4,020,814	88	5,395,634	63
" " 1859	217,269	00	2,881,473	75	3,098,742	75							244,034	40	6,956,867	15	7,200,901	55	10,299,644	30
" " 1860	7,519	50	1,644,981	75	1,652,501	25							117,156	59	6,508,050	33	6,625,206	92	8,277,708	17
" " 1861	27,135	00	513,222	75	540,357	75							142,454	08	8,677,742	83	8,820,196	91	9,360,554	66
" " 1862													166,246	00	7,206,886	74	7,373,132	74	7,373,132	74
" " 1863	13,500	00	270	00	13,770	00							415,577	82	14,970,806	31	15,386,384	13	15,400,154	13
" " 1864	20,655	00	6,615	00	27,270	00							925,542	63	5,312,153	54	6,237,696	17	6,264,966	17
" " 1865	37,800	00	9,112	50	46,912	50							421,209	81	3,857,050	30	4,278,260	11	4,325,172	61
" " 1866													157,305	44	4,124,532	76	4,281,838	20	4,281,838	20
" " 1867													296,376	61	5,436,559	23	5,732,935	34	5,732,935	84
" " 1868													317,213	18	5,342,748	45	5,659,961	63	5,659,961	63
" " 1869													359,808	00	2,779,108	80	3,138,916	80	3,138,916	80
" " 1870							1,591,350	30	554,222	25	2,145,572	55	230,592	00	1,564,555	20	1,795,147	20	3,940,719	75
" " 1871							1,509,937	20	481,168	35	1,991,105	55	362,035	20	3,215,808	00	3,577,843	20	5,568,948	75
" " 1872							2,254,602	60	235,175	40	2,489,778	00	472,128	00	3,821,472	00	4,293,600	00	6,783,378	00
" " 1873							2,167,569	00	54,205	20	2,221,765	20	463,180	80	2,474,956	80	2,938,137	60	5,159,902	80
" " 1874							2,283,381	90	33,327	45	2,316,709	35	297,139	20	1,693,099	20	1,990,238	40	4,306,947	75
" " 1875							2,810,084	40	43,262	10	2,853,346	50	223,353	60	885,542	40	1,108,896	00	3,962,242	50
bis Ende September 1876							2,978,839	80	51,309	45	3,030,149	25	67,027	20	1,989,499	20	2,056,526	40	5,086,675	65
Zusammen	1,391,098	50	5,363,275	50	6,754,374	00	15,595,756	20	1,452,670	20	17,048,426	40	6,147,620	30	90,369,014	38	96,516,634	68	120,319,435	08

Übersicht der in Österreich-Ungarn vom Jahre 1813 bis Ende September 1876 stattgefundenen Gold-, Silber- und Scheidemünzen-Prägung—Continued.

	Silbermünzen.																Zusammen.	
																	fl.	kr.
In den Jahren 1813 bis 1857	Conventions-Währung																232,048,909	32
	Österreichische Währung.																	
	Lewantiner Thaler.		Vereinsthaler.						Landes- (courant-) münzen à.									
	Summe.		Doppelte.		Einfache.		Summe.		Ö. W. fl. 2.		Ö. W. fl. 1.		Ö. W. fl. ½.		Summe.			
	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.	fl.	kr.		
Im Jahre 1857			1,896	00	1,147,623	00	1,149,519	00									1,149,519	00
" " 1858	9,239,430	57	3,036	00	12,583,738	50	12,586,774	50			21,172,588	00	9,836,178	75	31,008,766	75	52,834,971	82
" " 1859	2,055,448	58			7,423,054	50	7,423,054	50	1,098,140	00	31,841,454	00	14,712,849	25	47,652,443	25	57,130,946	33
" " 1860	47,674	41			2,429,935	50	2,429,935	50	27,598	00	24,737,119	00	8,576,845	50	33,341,562	50	35,819,172	41
" " 1861					4,709,824	50	4,709,824	50			14,658,697	00	2,098,532	75	16,757,229	75	21,467,054	25
" " 1862	95,538	25			1,497,438	00	1,497,438	00	30,978	00	4,810,360	00	5,779,877	00	10,621,215	00	12,214,191	25
" " 1863	3,016,249	35			3,313,245	00	3,313,245	00	48,632	00	4,276,093	00	861,844	50	5,186,569	50	11,516,063	85
" " 1864	8,377,109	31			3,953,697	00	3,953,697	00	62,274	00	1,464,971	00	1,252,355	00	2,779,600	00	15,110,406	31
" " 1865	4,573,099	81	22,275	00	3,126,945	00	3,149,220	00	144,696	00	1,827,709	00	20,000	00	1,992,405	00	9,714,724	81
" " 1866	1,159,418	47	31,185	00	3,884,107	50	3,915,292	50	149,270	00	2,191,159	00	200,837	00	2,541,266	00	7,615,976	97
" " 1867	3,144,153	59	24,900	00	2,520,873	00	2,545,773	00	89,100	00	1,959,445	00	28,665	00	2,077,210	00	7,767,136	59
" " 1868	7,349,436	40			252,456	00	252,456	00	122,634	00	1,622,301	00	60,361	00	1,814,316	00	9,416,208	40
" " 1869	33,677	29							175,540	00	1,758,537	00			1,934,047	00	1,967,734	29
" " 1870	195,475	59							337,446	00	4,918,644	00	1,989	00	5,258,079	00	5,453,554	59
" " 1871	22,942	65							204,768	00	8,134,255	00	28,548	00	8,367,571	00	8,390,513	65
" " 1872	233,846	65							182,898	00	8,181,386	00	26,091	00	8,390,369	00	8,624,215	65
" " 1873	727,583	04							197,478	00	10,218,115	00	12,004	00	10,427,597	00	11,155,180	04
" " 1874	5,218,013	53							152,112	00	4,560,707	00			4,718,819	00	9,936,832	53
" " 1875	6,971,520	39							241,896	00	7,127,245	00	5,002	00	7,344,143	00	14,315,663	39
bis Ende September 1876	10,466,576	18							120,204	00	8,385,273	00			8,505,477	00	18,972,053	18
Zusammen	62,937,194	06	83,292	00	46,842,937	50	46,926,229	50	3,361,634	00	163,846,052	00	43,510,999	75	210,718,685	75	320,572,109	31

Übersicht der in Österreich-Ungarn vom Jahre 1813 *bis Ende September* 1876 *stattgefundenen Gold-, Silber- und Scheidemünzen-Prägung*—Continued.

In den Jahren	Scheidemünzen. Silber. fl.	kr.	Kupfer. fl.	kr.	Zusammen. fl.	kr.	Gesammtbetrag. fl.	kr.
1813 bis 1857..	Conventions-Währung		26,454,128	42	18,873,399	37.5	45,327,528	19.5	531,163,441	31.5

Österreichische Währung.

	Silber à. 10 kr. fl.	kr.	5 kr. fl.	kr.	Summe. fl.	kr.	20 kr. fl.	kr.	10 kr. fl.	kr.	Summe. fl.	kr.	Kupfer à. 4 kr. fl.	kr.	1 kr. fl.	kr.	5-10 kr. fl.	kr.	Summe. fl.	kr.				
Im Jahre 1857																							1,149,519	00
" " 1858.															674,150	48	150,381	00	824,531	48	824,531	48	59,055,135	93
" " 1859.	362,486	00	66,795	00	429,281	00									72,171	00	18,697	00	90,868	00	520,149	00	67,950,739	63
" " 1860.	2,725,973	40	11,342	55	2,737,315	95							62,335	00	2,297,034	75	161,741	05.5	2,521,130	80.5	5,258,446	75.5	49,355,332	33.5
" " 1861.	770,050	00			770,050	00							1,144,163	80	1,124,155	57	45,718	35	2,624,037	72	3,394,087	72	34,221,696	63
" " 1862.	761,726	00			761,726	00							15,305	28	612,938	31	101,897	50	730,141	09	1,491,867	09	21,079,191	08
" " 1863.	63,125	00	50,625	00	113,750	00							34,275	00	92,649	47			126,924	47	240,674	47	27,156,892	45
" " 1864.	108,628	00	96,125	00	204,753	00							266,624	00			47,890	00	314,514	00	519,267	00	21,894,639	48
" " 1865.	119,828	00			119,828	00							8,978	00			50,160	00	59,138	00	178,966	00	14,218,863	42
" " 1866.																	27,187	50	27,187	50	27,187	50	11,925,002	67
" " 1867.	5,850	00	3,468	75	9,318	75															9,318	75	13,509,391	18
" " 1868.							6,776,881	60	1,594,316	30	8,371,197	90	123,971	92	135,250	70			249,222	62	8,620,420	52	23,696,590	35
" " 1869.							8,565,631	80	4,512,231	90	13,077,863	70			50,727	36			50,727	36	13,128,591	06	18,235,232	15
" " 1870.							8,235,364	60	5,842,149	50	14,067,514	10									14,067,514	10	23,461,788	44
" " 1871.							66,901	40	650,464	10	717,365	50									717,365	50	14,676,827	90
" " 1872.							372,288	20	715,438	30	1,087,726	50									1,087,726	50	16,495,320	15
" " 1873.									106,605	30	106,605	30									106,605	30	16,421,685	14
" " 1874.									132,371	30	132,371	30									132,371	30	14,376,151	38
" " 1875.									42,504	40	42,504	40									42,504	40	18,320,410	29
bis Ende September 1876									17,159	00	17,159	00									17,159	00	24,075,887	83
Zusammen..	4,917,666	40	228,356	30	5,146,022	70	24,007,067	60	13,613,240	10	37,620,307	70	1,965,673	00	5,049,077	64	603,672	40.5	7,618,423	04.5	50,384,753	44.5	491,276,297	83.5

APPENDIX E *6a.*

Emissions of bank and state notes.

Sums in millions of florins.

HÖCHSTER, NIEDERSTER UND DURCHSCHNITTLICHER STAND DES BANK- UND STAATSNOTEN-UMLAUFES 1863–1875.

Im Jahre	Banknoten-Umlauf					Staatsnoten-Umlauf				
	höchster		niederster		durchschnittlich	höchster		niederster		durchschnittlich
	Stand.					Stand.				
1863	21. Januar	423.5	17. Juni	386.7	397.7					
1864	13. Januar	398.9	23. December	371.6	386.4					
1865	11. Januar	374.9	21. Juni	338.4	350.4					
1866	18. Juli	373.1	9. Mai	255.0	316.3	31. December	215.3	31. Mai	116.6	158.3
1867	9. Januar	286.5	31. Juli	204.6	243.8	31. December	301.1	31. Januar	216.5	270.2
1868	31. December	276.2	24. Juni	224.0	245.7	30. November	302.2	31. März	267.6	297.1
1869	22. September	312.5	27. Januar	276.4	294.1	31. December	315.1	31. Januar	299.4	305.3
1870	24. August	316.3	31. März	260.8	287.8	31. December	352.1	30. April	310.6	326.2
1871	15. November	334.8	29. März	265.5	296.4	31. December	373.5	31. Januar	354.5	361.6
1872	13. November	329.3	26. Juni	290.5	309.1	31. Mai	378.4	30. November	374.4	376.0
1873	12. November	373.1	26. März	293.8	334.9	31. Mai	378.6	31. December	344.0	367.7
1874	7. Januar	359.5	30. December	293.2	313.8	31. October	347.2	30. April	313.9	332.0
1875	31. October	322.1	10. März	278.2	296.1	30. November	347.1	30. April	328.9	339.0

APPENDIX E 6b.

Average monthly and yearly course of silver.

MONATLICHER UND JAHRES DURCHSCHNITTS-COURS DES SILBERS 1861–1874.

Monat.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.
Januar	150.03	138.67	113.43	119.82	114.28	104.63	130.70	118.46	118.06	120.64	171.76	113.75	106.90	107.04
Februar	146.28	136.71	114.57	119.—	112.18	102.25	126.24	115.55	191.50	121.19	121.53	111.58	107.99	106.12
März	146.84	135.88	113.64	117.85	109.85	102.86	126.08	113.74	122.14	121.18	122.55	109.13	107.80	105.73
April	149.—	132.71	112.75	114.13	106.83	105.07	129.45	114.24	122.26	120.64	122.47	108.92	107.76	105.71
Mai	141.15	130.34	110.48	113.90	106.95	125.25	126.45	114.67	121.33	121.18	122.52	110.89	109.13	105.93
Juni	137.21	126.29	110.46	113.96	107.07	122.88	122.53	113.73	121.88	118.48	121.70	109.73	110.81	105.91
Juli	137.43	124.61	110.16	113.55	107.06	127.21	123.89	111.52	121.90	124.96	121.38	108.67	108.80	104.51
August	136.65	126.26	111.01	113.39	107.53	127.41	122.91	112.07	120.69	125.40	120.44	108.19	106.24	103.56
September	135.62	125.09	111.10	114.89	107.43	127.47	121.43	113.20	120.26	122.96	119.13	108.07	107.22	103.86
October	136.99	121.88	111.86	116.35	107.76	127.17	122.19	113.62	120.38	121.99	117.75	107.09	107.58	104.11
November	137.69	121.25	119.23	116.08	107.49	126.81	120.62	115.11	122.38	121.97	116.57	107.12	109.08	104.77
December	140.08	117.19	118.84	115.70	105.39	129.10	119.23	117.85	121.50	122.04	116.87	108.20	108.40	105.50
Jahres Durchschnitts-Cours	141.25	128.07	113.79	115.72	108.32	119.84	124.31	114.48	121.02	121.89	120.38	109.27	108.14	105.25

Durchschnitts-Cours von 1861 bis 1874, 117.98.

APPENDIX E 6c.

Prices of 100 gold and silver in paper at the end of each month.

PREIS-UNTERSCHIED ZWISCHEN GOLD UND SILBER 1873–1876, MIT SCHLUSS JEDEN MONATS.

Ende—	Silber-preis.	Gold-preis.	Differenz in %
	In Wien.		
Januar, 1873	107.50	108.31	0.81
Februar, 1873	108.00	108.75	0.75
März, 1873	107.75	109.00	1.25
April, 1873	107.90	109.25	1.35
Mai, 1873	109.50	110.25	0.73
Juni, 1873	108.75	110.63	1.88
Juli, 1873	107.75	110.94	3.19
August, 1873	105.75	111.25	5.50
September, 1873	108.50	113.38	4.88
October, 1873	107.75	113.38	5.63
November, 1873	108.75	113.38	4.63
December, 1873	106.00	112.50	6.50
Januar, 1874	107.15	112.87	5.72
Februar, 1874	105.40	111.37	5.97
März, 1874	105.50	111.87	6.37
April, 1874	106.15	112.25	6.10
Mai, 1874	105.70	111.75	6.05
Juni, 1874	105.70	111.50	5.80
Juli, 1854	103.85	110.37	6.52
August, 1874	104.00	110.25	6.25
September, 1874	103.40	109.62	6.22
October, 1874	104.10	110.37	6.27
November, 1884	105.10	111.12	6.02
December, 1874	105.00	111.12	6.12
Januar, 1875	105.90	111.38	5.48
Februar, 1875	105.15	111.06	5.91
März, 1875	104.10	111.00	6.90
April, 1875	103.20	111.00	7.80
Mai, 1875	102.00	111.06	9.06
Juni, 1875	100.75	110.88	10.13
Juli, 1875	100.75	111.13	10.38
August, 1875	101.85	111.50	9.65
September, 1875	101.40	111.50	10.10
October, 1875	103.80	113.00	9.20
November, 1875	106.00	113.69	7.69
December, 1875	103.90	113.06	9.16
Januar, 1876	104.30	115.50	11.20
Februar, 1876	102.75	115.60	12.85
März, 1876	101.50	117.40	15.90
April, 1876	103.40	120.85	17.45
Mai, 1876	102.90	121.50	18.60
Juni, 1876	101.30	125.85	24.55
Juli, 1876	101.25	125.40	24.15
August, 1876	101.25	121.55	20.30
September, 1846	102.40	122.85	20.45
October, 1876	105.60	124.70	19.10

APPENDIX E 6d.

Imports and exports of gold coin and bullion.

Ausweis über die in den Jahren 1867 *einschliesslich September* 1876 *in der öster.-ung. Monarchie zur Ein- und Ausfuhr gelangten Mengen von rohen Gold und Goldmünzen.*

Benennung.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	*1876.
	Einfuhr in den Jahren—Imports.									
	Kilogram.									
Gold, rohes, (bullion)	513	88	3	69	13	105	12	100	18	36
Goldmünzen, (coin)	12, 263	11, 456	20, 028	24, 180	40, 592	23, 452	18, 199	6, 971	3, 040	5, 917
	Ausfuhr—Exports.									
Gold, rohes, (bullion)	.....	47	.....	14	.....	2	.....	20	75	104
Goldmünzen, (coin)	6, 595	4, 006	5, 891	10, 845	14, 611	8, 920	3, 135	426	2, 442	4, 439

*Bis ende September.

APPENDIX E 6e.

Imports and exports of silver coin and bullion.

Auswcis über die in den Jahren 1867 einschliesslich September 1876 in der öster.-ung. Monarchie zur Ein- und Ausfuhr gelangten Mengen von rohen Silber und Silbermünzen.

Benennung.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.*
	Einfuhr in den Jahren—Imports.									
	Kilogram.									
Silber, rohes, (bullion)	7, 088	46, 328	4, 232	3, 603	44, 082	23, 272	78, 939	23, 505	79, 827	124, 909
Silbermünzen, (coin)	102, 260	160, 578	159, 743	107, 598	57, 581	52, 581	115, 070	99, 930	39, 109	35, 438
	Ausfuhr—Exports.									
Silber, rohes, (bullion)	31	150	594	515	414	13, 845	8	142	532	6,644
Silbermünzen, (coin)	140, 885	136, 025	66, 930	148, 930	272, 953	481, 335	241, 169	177, 430	134, 919	193, 944

*Bis incl. Sept. 1876.

BELGIUM.

A.—Mr. Merrill to Mr. Fish.
B.—Reply of chief officer of mint of Belgium to Interrogatories C of commission.
B 1, 2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16.—Various monetary laws.
B 3, 8, omitted.
B 15.—Internal management National Bank of Belgium.
B 17.—Prorogation of law of December 18, 1873.
B 18.—Coinage of Belgium, 1832–'75.
B 19.—Eleven "fascicula" of M. Malou, (omitted.)
C.—Reply of Mr. Merrill to Interrogatories B of commission.
C 1.—Extract from report of Citizen Lebreton to the French National Assembly in the year 1803.
D.—Mr. J. Allard to the commission.

A.

LEGATION OF THE UNITED STATES,
Brussels, December 12, 1876.

SIR: I have the honor to inclose herewith, in accordance with instructions contained in your circular-letter of September 18—

B. Answers to the interrogatories and requests addressed to the chief officers of the mint or mints in foreign countries, (with translation of the same,) together with the following-described annexes, reports, and authorities, as per list hereto appended.

C. Answers to the interrogatories and request addressed to the representatives of the United States in foreign countries, with annex, being "Extrait du rapport de Lebreton au tribunal au nom de la section des finances."

It was my earnest desire to have been able to forward to the Department of State, at an earlier date, the elaborate documents contained herein, but I was perforce obliged to await the return to me, from the

department here, of the desired replies and data and reports, to enable me to compile the mass herewith sent.

I trust the delay will work no prejudice to the important questions involved, and no inconvenience to the commission appointed to investigate and report upon the subject-matter.

I have the honor to be, sir, very respectfully, your obedient servant,

A. P. MERRILL.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

B.—*Answers from the chief officer of the mint of Belgium.*

Question No. 1. Please furnish a complete copy of the mining and coinage laws of your country as they exist to-day.

That part of the question relative to mining does not concern Belgium.

List of laws and decrees concerning coinage in Belgium.

December 30, 1848.	Royal decree.....	No. 1...	Organization of the administration of the mint.
August 25, 1852...	....do	No. 2...	Concerning exchange-matters of the mint, either in reference to refining or coining.
July 21, 1866.....	Law	No. 3...	Approving the monetary convention concluded the 23d December, 1865, between Belgium, France, Italy, and Switzerland.
March 25, 1867....	Royal decree.....	No. 4...	Fixing the expenses of the fabrication of gold and silver coin indicated in articles 2 and 3 of the monetary convention of 23d December, 1865.
Do	....do	No. 5...	Bearing upon the organization of the "Bureau de change" of the mint.
Do	....do	No. 6...	Fixing the expenses of refining gold and silver presented at the mint.
Do	Ministerial decree	No. 7...	Regulating the amount of coin to be fabricated and the weight of the material, gold and silver, to be daily refined for the payments made at the "Bureau de change."
Do	....do	No. 8...	Tariffs of the "Bureau de change" of the mint at Brussels.
June 11, 1868.....	....do	No. 9...	Regulating the price of broken viroles and coins sent to the mint.
February 28, 1870.	Royal decree.....	No. 10...	Fixing the price of the fabrication of copper coin of one and two centimes.
March 2, 1870.....	Ministerial decree.	No. 11...	Regulating the expenses of verifying copper moneys of one and two centimes.
March 28, 1870....	Royal decree.....	No. 12...	Relieving the treasury of the expenses of broken viroles and coins and of the expenses of verification.
March 29, 1870	Ministerial decree.	No. 13...	Fixing the price of broken viroles and coins and the expenses of verification.
September 10, 1870	Royal decree.....	No. 14...	Modifying the expenses of fabrication of gold and silver moneys effected for and on account of the treasury and the National Bank.
October 26, 1870...	Regulations.....	No. 15...	Internal management of the National Bank. Section II, operations of the precious metals. (Official documents of the national bank.)
June 30, 1873.....	Ministerial decree.	No. 16...	Modifying the expenses of the verification of current silver coin.
December 18, 1873	Law	No. 16...	Authorizing the limitation or the suspension of the coinage of 5-franc silver pieces. (Documents Monétaires, 2d series, 4th fascicle.)
January 31, 1874..	Convention.....	No. 16...	Additions to the monetary convention concluded at Paris the 23d December, 1865, between Belgium, France, Italy, and Switzerland. (Documents Monétaires, 2d series, 2d fascicles.)
February 5, 1875..	Declaration.....	No. 16...	Concerning the fabrication of silver coin during the year 1875, in Belgium, France, Italy, and Switzerland. (Documents Monétaires, 2d series, 7th fascicle.)
April 27, 1875.....	Law	No. 17...	Proclamation of the prorogation of the law of the 18th December, 1873, relative to coining of silver.
February 3, 1876..	Declaration.....	No. 17...	Concerning the fabrication of silver coin during the year 1876, in France, Belgium, Italy, and Switzerland. And in reference to the suppression of counterfeit coin. (Documents Monétaires, 2d series, 10th fascicle.)
April 25, 1876.....	Motion.....	No. 17...	Concerning the coining of silver. (Documents Monétaires, 2d series, 11th fascicle.)

Question No. 2. Please furnish the statistics of the annual production, movement, and coinage of gold and silver, severally, in your country, going as far back as may be convenient.

Herewith find statistical tables of all coins fabricated in Belgium from 1832 to 1875 inclusive, (annex No. 18.)

Question No. 3. Please state if any changes have occurred in the conditions or facilities affecting the production of either of the precious metals, such as the invention and discovery of improved means or processes.

This question is without object as far as Belgium is concerned, where gold and silver are only produced in an indirect manner, be it by means of refining the precious metals (mint of Brussels) or by argentiferous lead, (establishments of Corphalie and of Bleyberg). Refinery established by Mr. Allard in 1852 is operated by the sulphuric-acid method. The treatment of argentiferous lead is done by the Pattinson system. Silver collected in this way is of too little consequence for any special statistics to be collected in reference thereto.

Question No. 4. Please state what loss of time falls upon the owners of bullion delivered at your mint for coinage.

The Belgium mint is bound to transform into coin, within a delay of eight days, the ingots and materials paid into the "change" at the rate of 500,000 francs per day for gold and 150,000 francs per day for silver. These sums can be respectively augmented to 1,000,000 francs or 300,000 francs; but in that case the half of all the fabrications is exclusively reserved for the National Bank, if from the condition of its treasury it judges it necessary to claim it. (See ministerial decree of the 29th March, 1867, art. 1, littera 6.)

Question No. 5. Please state what legislative or governmental measures, if any, are at present contemplated to be effected in your country with reference to the metallic standard of value or to the mining or coinage of the precious metals.

See answers to the first question and annexes. Motion presented the 25th April, 1876, to the Chamber of Representatives. Statement of the motives is to be found in "Documents Monétaires," 2d series, 11th fascicle.

Question No. 6. Please furnish any other information, or documents containing information, on the subjects embraced in the above-recited concurrent resolution, establishing the United States monetary commission.

See the documents concerning this monetary question published by Mr. Malou.

B 1.

Arrêté royal du 30 décembre 1848, organique de l'administration des monnaies.

Léopold, Roi des Belges, à tous présents et à venir, salut.

Vu la loi du 28 décembre 1848, (Moniteur, n° 305,) portant suppression, à compter du 1er janvier 1849, de la commission des monnaies, instituée par arrêté royal du 29 décembre 1831 et successivement maintenue par les lois du 27 décembre 1833 et du 31 décembre 1834;

Considérant que les fonctions exercées jusqu'ici collectivement ou individuellement par le président de la commission des monnaies et les deux commissaires généraux seront remplies désormais, sous l'autorité

du ministre des finances, par un commissaire qui prendra le titre de commissaire des monnaies; qu'en conséquence il est devenu nécessaire d'introduire quelques modifications au règlement du 29 décembre 1831;

Vu la loi monétaire du 5 juin 1832, ainsi que la loi du 19 brumaire an VI (9 novembre 1797) et l'arrêté du 14 septembre 1814, relatifs à la garantie des ouvrages et matières d'or et d'argent;

Sur le rapport de notre ministre des finances, nous avons arrêté et arrêtons:

TITRE I^er^.—*Du personnel.*

ART. 1^er^. Le personnel de l'administration des monnaies se compose, outre le commissaire des monnaies:

1° D'un inspecteur général des essais;
2° D'un contrôleur au change et au monnayage;
3° De deux essayeurs;
4° Du directeur de la fabrication;
5° D'un graveur des monnaies et des poinçons de titre et de garantie.

Les fonctions du graveur cessent le 31 décembre de chaque année; elles pourront être renouvelées.*

ART. 2. Le directeur de la fabrication et le contrôleur au change et au monnayage occuperont, à l'Hôtel des Monnaies, des locaux qui seront indiqués, dans l'intérêt du service, par notre ministre des finances.

ART. 3. Le commissaire des monnaies, l'inspecteur général des essais, le directeur de la fabrication et le graveur seront nommés par nous, sur la proposition de notre ministre des finances.†

ART. 4. Il sera nommé par notre ministre des finances, après avoir entendu le commissaire des monnaies, aux places de contrôleur au change et au monnayage et des essayeurs.

TITRE II.—*Des fonctions.*

ART. 5. Le commissaire des monnaies, placé sous l'autorité du ministre des finances, travaillera, s'il y a lieu, directement avec lui.

Les autres fonctionnaires et employés exerceront leurs fonctions sous la direction et la surveillance immédiates du commissaire des monnaies.

ART. 6. Les attributions spéciales du commissaire des monnaies sont:

1° De juger, conformément à la loi, le titre et le poids des espèces fabriquées, et d'en autoriser la mise en circulation suivant les instructions qui seront arrêtées par notre ministre des finances;

2° De délivrer, conformément aux lois du 22 vendémiaire an IV et du 19 brumaire an VI, aux essayeurs de commerce et aux essayeurs des bureaux de garantie, les certificats de capacité dont ils doivent être pourvus avant d'entrer en fonctions;

3° De décider les questions sur le titre et la marque des lingots et des ouvrages d'or et d'argent, sur la légalité des poinçons et carrés de l'état, et sur les fausses monnaies.

ART. 7. La partie du service de la garantie qui ne concerne pas l'exécution des lois et règlements sur le titre et la marque des matières et espèces d'or et d'argent, demeure dans les attributions des contributions directes, douanes et accises.

ART. 8. Le commissaire des monnaies est chargé, d'après les instructions qui lui seront transmises par notre ministre des finances, de prendre les mesures nécessaires dans l'intérêt du service.

* L'arrêté royal du 5 juin 1856 rend fixes les fonctions du graveur des monnaies.
† Le contrôleur au change et au monnayage est nommé par le roi. Arrêté royal du 14 février 1873.

Il a la police de l'Hôtel des Monnaies.

Il soumet annuellement au ministre le budget des dépenses relatives à l'administration des monnaies.

Il veille à ce que les règlements qui concernent la fabrication des espèces soient exactement observés par toutes les personnes qui doivent concourir à cette opération.

Il veille également à l'exécution des tarifs qui règlent le prix des matières versées au change.

Il vérifie et arrête à la fin de chaque mois, et plus souvent, s'il le juge convenable, les registres du directeur et du contrôleur au change et au monnayage.

ART. 9. Le graveur sera chargé de fabriquer et de fournir tous les coins et les viroles brisées nécessaires à la fabrication, ainsi que les poinçons de la garantie.

Les poinçons et matrices, ainsi que les coins destinés à la fabrication, seront renfermés dans une armoire à trois clefs, dont l'une sera entre les mains du commissaire des monnaies, la deuxième entre celles du graveur et la troisième entre les mains de la personne chargée de tenir les registres du mouvement desdits coins, poinçons et matrices.

ART. 10. L'inspecteur général des essais surveillera les opérations des essayeurs pour la vérification du titre des matières et des espèces. Il en dressera procès-verbal conformément aux déclarations des essayeurs et le remettra, avec son avis motivé, s'il y a lieu, au commissaire des monnaies.

ART. 11. Il vérifiera, s'il y a lieu, le titre des matières et espèces indiqués par les essayeurs. Il choisira un poinçon qu'il fera insculper sur une planche en cuivre, déposée entre les mains du commissaire des monnaies.

ART. 12. Les essayeurs indiqueront le titre des espèces fabriquées et des lingots et matières qui leur seront présentés par ordre du commissaire des monnaies.

Il leur est expressément défendu de faire aucune opération sans son autorisation.

Ils choisiront un poinçon qu'ils feront insculper sur une planche en cuivre, déposée entre les mains du commissaire des monnaies.

Ils tiendront registre de toutes leurs opérations.

Ils ne pourront employer que les agents d'essai qui leur auront été remis d'après les ordres du commissaire.

Les agents chimiques seront tirés du dépôt établi à la monnaie.

ART. 13. Le directeur recevra, en présence du contrôleur au change et au monnayage, les matières destinées à la fabrication des espèces.

Il en est seul responsable envers les porteurs.

Il est tenu de payer les matières qu'ils auront versées au prix du tarif légal, lequel devra être affiché dans les bureaux de change.

Il comptera directement de ses opérations, chaque année, à la cour des comptes.

Le mode de sa comptabilité, ainsi que celui de ses écritures, sera prescrit par notre ministre des finances.

Il sera tenu de verser un cautionnement de cinquante mille francs.

ART. 14. Le contrôleur au change et au monnayage enregistrera toutes les matières destinées à être converties en espèces qui seront remises au directeur.

Les écritures seront tenues de manière qu'elles puissent servir de contrôle à celles du directeur de la fabrication.

Il surveillera spécialement les opérations du monnayage, etc.

TITRE III.—*De la fabrication, de la vérification du poids et du titre de la déliverance des espèces fabriquées.*

ART. 15. Lorsqu'une fabrication d'espèces sera terminée, le commissaire des monnaies, ou un agent de l'administration par lui désigné, et le contrôleur au change et au monnayage prendront, chacun dans la masse, au hasard et sans choix, trois pièces pour servir d'échantillon.

La masse restante des espèces sera pesée par l'un des essayeurs, en présence du contrôleur et du directeur de la fabrication ou de son agent.

Il en sera dressé procès-verbal constatant le nombre, la valeur nominale et le poids desdites pièces, qui seront remises dans le local destiné à servir de dépôt, jusqu'après le jugement à intervenir. Le dépôt fermera à trois clefs.

Le même procès-verbal constatera le poids des six échantillons, qui seront vérifiés conformément à ce qui est prescrit a l'art. 17.

ART. 16. Le contrôleur au change et au monnayage vérifiera, sous sa responsabilité, le poids et l'empreinte des pièces. Il séparera celles qui sont défectueuses ou faibles de poids, et les fera refondre en sa présence, après en avoir averti le commissaire des monnaies; le surplus sera remis au directeur.

Les pièces faibles de poids ou dont les empreintes seraient défectueuses, ainsi que les espèces hors de titre ou de poids, seront refondues aux frais du directeur. Il sera dressé procès-verbal de ces diverses opérations.

ART. 17. Immédiatement après les opérations prescrites à l'art. 15, il sera procédé par l'inspecteur général, en présence du contrôleur et du directeur ou de son agent, à la vérification du poids des pièces prises pour échantillons.

ART. 18. Si le poids des échantillons n'est pas dans les remèdes, le commissaire des monnaies ordonnera la refonte de la fabrication, sans vérification du titre.

ART. 19. Si le poids est dans les remèdes, l'inspecteur général prendra trois pièces qu'il pèsera séparément, les fera laminer pour les difformer et y apposera son poinçon.

Il en remettra une à chacun des deux essayeurs et gardera la troisième devers lui pour en faire la vérification, s'il y a lieu.

Les trois autres pièces resteront entre les mains du commissaire des monnaies.

Les essayeurs opéreront chacun séparément dans le laboratoire des essais. Ils donneront leurs résultats dans le jour et par écrit.

Si les rapports des deux essayeurs sont d'accord, le titre sera jugé d'après ces rapports.

Si les rapports des deux essayeurs ne sont pas d'accord, l'inspecteur général des essais procédera à la vérification du titre.

Si le rapport de l'inspecteur général des essais est d'accord avec celui de l'un des essayeurs, le titre sera jugé d'après ce rapport.

Si le titre annoncé par l'inspecteur susdit diffère des titres déterminés par les essayeurs, le jugement sera porté d'après le titre moyen des trois essais.

ART. 20. Si l'inspecteur général des essais reconnaissait qu'il y ait lieu à une nouvelle vérification, ou si elle était ordonnée par le commissaire des monnaies, il y serait procédé par l'inspecteur susdit, sous les yeux du commissaire. Le résultat obtenu déterminerait le jugement du titre.

ART. 21. Le procès-verbal de ces opérations, signé par le directeur de la fabrication et l'inspecteur général des essais, sera remis au com-

missaire des monnaies, qui prononcera le jugement, dont copie certifiée sera remise au directeur de la fabrication.

ART. 22. Le restant des échantillons qui auront servi au jugement de la délivrance, les boutons, cornets et résidus d'essai, ainsi que les pièces échantillons qui auront été conservées entières seront renfermés dans un paquet, sous les cachets de l'administration des monnaies et de l'inspecteur général des essais.

Ce paquet sera placé dans une armoire à trois clefs, dont l'une sera entre les mains du commissaire des monnaies, la seconde entre celles de l'inspecteur général et la troisième entre les mains du contrôleur du change et du monnayage.

Mention de ce dépôt sera faite dans le jugement ainsi que dans la suscription du paquet, qui en outre indiquera la date de la délivrance, la date du jugement et le titre définitivement fixé.

DISPOSITIONS GÉNÉRALES.

ART. 23. Toutes dispositions contraires au présent arrêté sont abrogées.

ART. 24. Notre ministre des finances est chargé de l'exécution du présent arrêté.

Donné à Laeken, le 30 décembre 1848.

LEOPOLD.

Par le Roi :

Le Ministre des Finances,

FRÈRE-ORBAN.

B 2.

Arrêté royal du 25 août 1852, relatif aux matières versées au change de la monnaie, soit pour l'affinage, soit pour le monnayage.

Léopold, Roi des Belges, à tous présents et à venir, salut.

Considérant que par suite de l'établissement d'un affinage à l'Hôtel des Monnaies, il reste a prescrire des formalités propres à mettre ce service en concordance avec les règlements en vigueur ;

Revu notre arrêté du 30 décembre 1848, N° 9, Moniteur du 5 janvier 1849;

Sur le rapport de notre ministre des finances, nous avons arrêté et arrêtons :

ART. 1er. La surveillance du commissaire des monnaies et du contrôleur au change et au monnayage s'étend sur l'atelier d'affinage établi à l'Hôtel des Monnaies.

ART. 2. Toutes les matières d'or et d'argent qui seront déposées à l'Hôtel des Monnaies, soit pour le monnayage, soit pour l'affinage seulement, seront reçues par le directeur en présence du contrôleur qui en passera écriture.

ART. 3. Le directeur, seul responsable envers les porteurs de matières, délivrera un bon représentant les matières destinées au monnayage, de même qu'il délivrera un bon de matières affinées représentant les matières uniquement déposées pour l'affinage.

Les bons dont le contrôleur constatera l'enregistrement par son visa contiendront la déclaration que les matières versées restent la propriété des personnes au nom desquelles les bons sont créés.

ART. 4. Les matières entrées qui ne doivent pas être immédiatement remises aux ateliers seront enfermées dans un local désigné par le directeur et dont une clef sera remise au contrôleur.

ART. 5. Le contrôleur est tenu de procéder fréquemment, à des époques indéterminées, à des recensements partiels ou généraux, et d'en faire connaître les résultats au commissaire des monnaies.

L'autorité supérieure pourra en prescrire tous les jours et à toute heure.

ART. 6. Les matières d'or et d'argent déposées à l'Hôtel des Monnaies ne pourront en sortir, soit brutes, soit affinées seulement, soit monnayées, si ce n'est à l'intervention du contrôleur et contre remise des bons qui les représentent.

ART. 7. Notre ministre des finances est chargé de l'exécution du présent arrêté.

Donné à Laeken, le 25 août 1852.

LÉOPOLD.

Par le Roi :
Le Ministre des Finances,
FRÈRE-ORBAN.

B 4.

Arrêté royal du 25 mars 1867, *fixant les frais de fabrication des monnaies d'or et d'argent indiquées aux articles 2 et 3 de la convention monétaire du 23 décembre* 1865.

Léopold II, Roi des Belges, à tous présents et à venir, salut.

Vu l'art. 2 de la loi monétaire du 21 juillet 1866;

Voulant régler les frais de fabrication des monnaies d'or et d'argent indiquées dans les art. 2 et 3 de la convention monétaire du 23 décembre 1865, approuvée par la loi précitée;

Sur la proposition de notre ministre des finances, nous avons arrêté et arrêtons:

ART. 1er. Les frais de fabrication des monnaies d'or et d'argent indiquées aux art. 2 et 3 de la convention monétaire du 23 décembre 1865, sont fixés, tous déchets compris:

A. Par kilogramme de monnaie d'or, à six francs soixante-dix centimes, (6 fr. 70c.)

B. Par kilogramme de monnaie d'argent, à un franc cinquante centimes, (1 fr. 50c.)

ART. 2. Notre ministre des finances est chargé de l'exécution du présent arrêté, qui sera obligatoire le jour de sa publication.

Donné à Bruxelles, le 25 mars 1867.

LÉOPOLD.

Par le Roi :
Le Ministre des Finances,
FRÈRE-ORBAN.

B 5.

Arrêté royal du 25 mars 1867, *portant organisation du bureau de change de la monnaie.*

Léopold II, Roi des Belges, à tous présents et à venir, salut.

Vu les art. 2 et 3 de la convention monétaire du 23 décembre 1865, approuvée par la loi du 21 juillet 1866;

Vu nos arrêtés de ce jour, réglant:

A. Les frais de fabrication des monnaies d'or et d'argent indiquées aux art. 2 et 3 de la convention précitée;

B. Les frais d'affinage des matières d'or et d'argent et les conditions dans lesquelles les matières présentées au bureau du change seront passibles de ces frais;

Voulant organiser le bureau du change de la monnaie;

Sur la proposition de notre ministre des finances, nous avons arrêté et arrêtons:

ART. 1er. La valeur du kilogramme d'or pur est fixée à 3,444 fr. 44 c. [444], celle du kilogramme au titre monétaire de 0.900 à 3.100 francs et celle du kilogramme d'or aux différents titres en proportion.

Le kilogramme d'or pur sera payé au bureau du change, déduction faite des frais de fabrication, 3,437 fr.; le kilogramme d'or à 0.900, titre monétaire, 3,093 fr. 30 c., et les autres titres en proportion, sauf la retenue des frais d'affinage, s'il y a lieu.

ART. 2. La valeur du kilogramme d'argent pur est fixée à 222 fr. 22 c. [222], celle du kilogramme au titre monétaire de 0.900 à 200 francs et celle du kilogramme d'argent aux différents titres en proportion.

Le kilogramme d'argent pur sera payé au bureau du change, déduction faite des frais de fabrication, 220 fr. 55 c. [555]; le kilogramme d'argent à 0.900, titre monétaire, 198 fr. 50 c., et les autres titres en proportion, sauf la retenue des frais d'affinage, s'il y a lieu.

ART. 3. Notre ministre des finances établira des tarifs de la valeur par kilogramme des espèces et matières d'or et d'argent d'après les bases indiquées ci-dessus. Les titres des espèces et des matières d'or et d'argent y seront exprimés en millièmes et en dixièmes de millième, et il sera tenu compte aux porteurs de matières de cette dernière fraction, tant pour le poids que pour le titre.

Les tarifs seront publiés et affichés au bureau du change de la monnaie.

ART. 4. En cas de contestation sur le titre et la nature des espèces et des matières d'or et d'argent, présentées au bureau du change, le commissaire des monnaies, après avoir fait vérifier, au laboratoire des essais, le titre et la nature desdites espèces et matières, statuera conformément aux dispositions à arrêter par notre ministre des finances.

ART. 5. Notre ministre des finances déterminera les sommes pour lesquelles des espèces d'or et d'argent seront fabriquées journellement pour les versements faits au bureau du change de la monnaie.

Ces sommes serviront de bases pour l'inscription et la délivrance des bons de monnaie aux porteurs de matières.

ART. 6. Notre ministre des finances fixera également le poids des matières d'or et d'argent qui devra être affiné journellement pour les versements faits au bureau du change.

Ce poids servira de base pour l'enregistrement et la délivrance des bons d'affinage aux porteurs de matières.

ART. 7. Les bons d'affinage porteront le poids et le titre des matières d'or et d'argent exprimé en millièmes et en dixièmes de millième, et il sera tenu compte au porteur de matières jusqu'au dixième de millième inclusivement de l'or et de l'argent contenus dans les matières.

ART. 8. Les lingots affinés porteront la marque de la monnaie, la désignation en chiffres du poids et du titre en millièmes et en dixièmes de millième, la marque du poinçon de l'essayeur qui aura fait la détermination du titre et le numéro d'ordre du registre de l'essayeur.

ART. 9. L'arrêté royal du 4 octobre 1832 est rapporté.

ART. 10. Notre ministre des finances est chargé de l'exécution du présent arrêté, qui sera obligatoire le jour de sa publication.

Donné à Bruxelles, le 25 mars 1867.

LÉOPOLD.

Par le Roi :

Le Ministre des Finances,

FRÈRE-ORBAN.

B 6.

Arrêté royal du 25 mars 1867, fixant les frais d'affinage des matières d'or et d'argent présentées au change de la monnaie.

Léopold, Roi des Belges, à tous présents et à venir, salut.

Vu l'article 2 de la loi monétaire du 21 juillet 1866 ;

Voulant régler les frais d'affinage des matières d'or et d'argent et les conditions dans lesquelles les matières présentées au bureau du change de la monnaie seront passibles de ces frais ;

Sur la proposition de notre ministre des finances, nous avons arrêté et arrêtons :

ART. 1er. Les frais d'affinage des matières d'or sont fixés, tous déchets compris, à quatre francs (4 fr.) par kilogramme de leur poids brut.

Sont considérés comme matières d'or, tous lingots contenant *au moins* cent cinquante millièmes d'or, (0.150.)

ART. 2. Les frais d'affinage d'un kilogramme d'argent sont fixés, tous déchets compris, à quatre-vingt-dix centimes, (90 c.)

Ces frais seront augmentés d'un centime (0.01) par kilogramme du poids brut des matières d'argent pour chaque *centième* (0.01) de diminution de titre au-dessous de mille, (1,000.)

Les fractions inférieures à un centième de titre seront négligées.

Sont assimilés aux matières d'argent tous lingots contenant de l'or en qualité inférieure à cent cinquante millièmes, (0.150.)

ART. 3. Les matières d'or et d'argent, présentées au bureau du change, seront passibles des frais d'affinage :

1° Lorsqu'elles seront au-dessous du titre de neuf cents millièmes, (0.900.)

Dans ce cas, le montant de ces frais sera calculé sur la portion de matières qui devra être affinée pour élever la totalité au titre de neuf cents millièmes, (0.900.)

2° Lorsqu'elles contiendront des métaux autres que le cuivre qui devront être séparés de l'or ou de l'argent.

ART. 4. Notre ministre des finances est chargé de l'exécution du présent arrêté, qui sera obligatoire le jour de sa publication.

Donné à Bruxelles, le 25 mars 1867.

LÉOPOLD.

Par le Roi :

Le Ministre des Finances,

FRÈRE-ORBAN.

B 7.

Arrêté ministériel du 25 mars 1867, réglant la somme des monnaies à fabriquer et le poids des matières d'or et d'argent à affiner journellement pour les versements faits au bureau du change.

Le ministre des finances, vu les art. 5 et 6 de l'arrêté royal du 25 de ce mois, n° 3;

Voulant fixer la somme des monnaies et le poids des matières d'or et d'argent à fabriquer et à affiner journellement pour les versements faits au bureau du change;

Voulant prescrire en même temps les règles à suivre pour la délivrance, l'enregistrement et le payement des bons de monnaie et des bons d'affinage;

Sur la proposition du commissaire des monnaies, le secrétaire général entendu, nous avons arrêté et arrêtons:

ART. 1er. La somme des monnaies à fabriquer journellement pour les versements faits au bureau du change est fixée:

A. Pour les monnaies d'or à cinq cent mille francs, (500,000 fr. ;)

B. Pour la monnaie d'argent (pièce de 5 francs) à cent cinquante mille francs, (150,000 fr.)

Ces valeurs pourront être respectivement portées à un million de francs (1,000,000 de fr.) ou à trois cent mille francs, (300,000 fr.;) mais dans ce cas, la moitié de toutes les fabrications sera exclusivement réservée à la Banque nationale, si, d'après l'état de son encaisse, elle juge nécessaire de la réclamer.

ART. 2. Il sera admis journellement pour être soumis à l'affinage:

A. Un poids de matières d'or brutes représentant cent cinquante kilogrammes d'or fin;

B. Un poids de matières d'argent brutes représentant six cent cinquante kilogrammes d'argent fin.

Ces poids seront élevés respectivement à trois cents (300) et à treize cents (1,300) kilogrammes, lorsque les matières d'or et d'argent seront présentées à la fois pour l'affinage et le monnayage et que les besoins du monnayage réclameront des poids de métaux fins s'élevant à ces chiffres.

ART. 3. Les bons de monnaie et les bons d'affinage souscrits et délivrés seront enregistrés dans l'ordre de date de la présentation des matières d'or et d'argent au bureau du change.

Pourront être considérés comme présentés au bureau du change pour être monnayés et affinés:

1° Les matières et espèces d'or et d'argent appartenant à la Banque nationale;

2° Les lingots et monnaies d'or et d'argent déposés à la Banque nationale et sur lesquels des avances de fonds ont été faites;

3° Les lingots et monnaies d'or et d'argent en simple dépôt à la Banque nationale.

Pour jouir de cette faculté, les porteurs de matières seront tenus de déposer entre les mains du directeur de la fabrication, en présence du contrôleur au change et au monnayage, un extrait, certifié conforme par le gouverneur de la Banque nationale ou son délégué, du dépôt de matières effectué à cet établissement, indiquant la nature, le poids et le titre des matières déposées soit pour le monnayage, soit pour l'affinage, soit pour l'affinage et le monnayage à la fois.

L'enregistrement de cet extrait de dépôt aura lieu d'après l'ordre de date de sa présentation au bureau du change et de la même manière que les bons de monnaie et les bons d'affinage.

Des bons de monnaie ou des bons d'affinage seront souscrits et délivrés successivement, jusqu'à l'épuisement des matières inscrites sur l'extrait de dépôt.

ART. 4. Les bons de monnaie et les bons d'affinage pourront être payés par anticipation, mais leur payement devra toujours se faire dans l'ordre de leur *enregistrement au bureau du change.*

ART. 5. En cas de contestation sur la somme à inscrire sur les bons de monnaie, sur le poids des matières d'or et d'argent à inscrire sur les bons d'affinage, sur la date, sur l'ordre d'enregistrement et de payement des bons en général, le commissaire des monnaies fixera cette somme, ce poids, cette date, cet ordre d'enregistrement et de payement, après avoir entendu le contrôleur au change et au monnayage.

ART. 6. Le présent arrêté sera affiché dans le bureau du change de la monnaie.

ART. 7. Le secrétaire général et le commissaire des monnaies sont chargés, chacun en ce qui le concerne, de l'exécution du présent arrêté.

Bruxelles, le 25 mars 1867.

Le ministre des finances,
FRÈRE-ORBAN.

B 9.

Arrêté ministériel du 11 *juin* 1868, *réglant le prix des coins et viroles brisées, destinés à la fabrication des monnaies.*

Le ministre des finances, vu les lois du 22 vendémiaire an iv, du 20 décembre 1860 et du 21 juillet 1866; les arrêtés royaux du 30 décembre 1848, du 27 décembre 1860, du 23 juillet 1866 et du 15 mars 1867, ensemble l'arrêté ministériel du 5 octobre et l'instruction générale du 10 octobre 1832;

Attendu que l'expérience démontre que le prix des coins et viroles brisées, destinés au monnayage, peut être établi sur le poids des pièces fabriquées et que cette base uniforme est indépendante à la fois des dimensions des presses, des coins et des viroles brisées monétaires et du nombre de pièces fournies par chaque paire de coins et par chaque virole brisée;

Attendu que les perfectionnements apportés dans la confection des coins et viroles brisées permettent d'opérer une réduction dans le prix alloué jusqu'ici au graveur de l'administration pour ces fournitures;

Sur la proposition du commissaire des monnaies, le secrétaire général entendu, arrête:

ART. 1er. Les coins et viroles brisées, soumis à l'épreuve normale du balancier et acceptés par l'administration, sont payés au graveur par kilogramme de pièces fabriquées.

ART. 2. Il est alloué, pour les coins:

A. Des monnaies d'or:

1° Par kilogramme de pièces de vingt francs, vingt centimes, (0.20.)
2° Par kilogramme de pièces de dix francs, trente centimes, (0.30.)

B. Des monnaies d'argent:

1° Six centimes (0.06) par kilogramme de pièces de cinq francs.
2° Douze centimes et demi (0.12.5) par kilogramme de pieces de deux francs.

3° Vingt-trois centimes (0.23) par kilogramme de pièces d'un franc.
4° Quarante centimes (0.40) par kilogramme de pièces de cinquante centimes.

C. Des monnaies de nickel :

1° Dix centimes (0.10) par kilogramme de pièces de vingt centimes.
2° Quinze centimes (0.15) par kilogramme de pièces de dix centimes.
3° Vingt centimes (0.20) par kilogramme de pièces de cinq centimes.

D. Des monnaies de cuivre :

1° Dix-neuf centimes (0.19) par kilogramme de pièces de deux centimes.
2° Trente-cinq centimes (0.35) par kilogramme de pièces d'un centime.

Pour les viroles brisées :

A. De la monnaie d'or :

Neuf centimes (0.09) par kilogramme de pièces de vingt francs.

B. De la monnaie d'argent :

Un centime et demi (0.01.5) par kilogramme de pièces de cinq francs.

ART. 3. A dater du 1er juillet prochain sont abrogées toutes les dispositions contraires au présent arrêté et notamment le tarif du prix des coins établi en 1835 et inséré dans le (s) considérant de l'arrêté du 4 octobre 1861, nos arrêtés du 25 juin 1856, du 4 octobre 1861, du 2 février 1865 et du 1er mai 1867.

ART. 4. Le secrétaire général et le commissaire des monnaies sont chargés, chacun en ce qui le concerne, de l'exécution du présent arrêté.

Bruxelles, le 11 juin 1868.

Le Ministre des Finances,
FRÈRE-ORBAN.

B 10.

Arrêté royal du 28 février 1870, fixant les frais de fabrication des monnaies de cuivre d'un et de deux centimes.

Leopold II, Roi des Belges, à tous présents et à venir, salut.

Vu les art. 2 et 10 de la loi monétaire du 21 juillet 1866 ;

Voulant régler les frais de fabrication des monnaies de cuivre d'un et de deux centimes ;

Sur la proposition de notre ministre des finances, nous avons arrêté et arrêtons :

ART. 1er. Les frais de laminage au fin, de découpage de lames de cuivre, de refoulage, de recuit et de blanchiment de flans sont fixés par cent kilogrammes (100) de cuivre monnayé et passé en délivrance :

A. Pour pièces de deux centimes, à fr. 11.80 ;

B. Pour pièces d'un centime, à fr. 8.75.

ART. 2. Les frais de frappe par 100 kilogrammes (100) de cuivre monnayé et passé en délivrance sont fixés :

A. Pour pièces de deux centimes, à fr. 35 ;

B. Pour pièces d'un centime, à fr. 52.50.

Aux conditions qui précèdent, le gouvernement fournit au directeur de la fabrication les coins nécessaires au monnayage.

ART. 3. Les dispositions qui précèdent recevront leur exécution à partir du 1er avril 1869.

ART. 4. Les àrt. 2 et 3 de l'arrêté royal du 16 octobre 1832 sont rapportés.

Notre ministre des finances est chargé de l'exécution du présent arrêté.

Donné à Bruxelles, le 28 février 1870.

LÉOPOLD.

Par le Roi:
Le Ministre des Finances,
FRÈRE-ORBAN.

B 11.

Arrêté ministériel du 2 mars 1870, réglant les frais de vérification des monnaies de cuivre d'un et de deux centimes.

Le ministre des finances, vu l'art. 16 de l'arrêté royal du 30 décembre 1848;

Voulant régler les frais faits par le contrôleur au change et au monnayage pour la vérification d'empreintes, le comptage, le pesage et la mise en sacs des monnaies de cuivre présentées en délivrance, et les frais de difformation des pièces reconnues défectueuses d'empreintes;

Sur la proposition du commissaire des monnaies, le secrétaire général entendu, arrête:

ART. 1er. Les frais de vérification d'empreintes, de comptage, de pesage et de mise en sacs monnaies de cuivre présentées en délivrance sont fixés par 100 kilogrammes de ces espèces:

1° Pour pièces de deux centimes, à fr. 1.170;

2° Pour pièces d'un centime, à fr. 3.40.

ART. 2. Les frais de difformation des monnaies reconnues defectueuses d'empreintes sont fixés par 100 kilogrammes de pièces difformées:

1° Pour pièces de deux centimes, à fr. 1.25;

2° Pour pièces d'un centime, à fr. 3.50.

ART. 3. Ces frais seront remboursés au contrôleur au change et au monnayage sur état apprové par le commissaire des monnaies et seront imputés sur l'allocation portée au budget du ministère des finances pour la fabrication de monnaies de cuivre.

ART. 4. Les dispositions qui précèdent recevront leur exécution à partir du 1er avril 1869.

Le secrétaire général et le commissaire des monnaies sont chargés, chacun en ce qui concerne, de l'exécution du présent arrêté.

Bruxelles, le 2 mars 1870.

Le Ministre des Finances,
FRÈRE-ORBAN.

B 12.

Arrêté royal du 28 mars 1870, désintéressant le trésor public des frais de coins et viroles et des frais de vérification.

Léopold II, Roi des Belges, à tous présents et à venir, salut.

Vu la loi du 21 juillet 1866, ainsi que les arrêtés royaux du 30 décember 1848 et du 25 mars 1867;

Voulant désintéresser le trésor public dans les frais de fabrication des monnaies courantes d'or et d'argent et régler le mode de payement des coins et viroles de monnayage, et des frais de vérification du poids et des empreintes desdites espèces courantes d'or et d'argent;

Sur la proposition de notre ministre des finances, nous avons arrêté et arrêtons:

ART. 1er. Le prix des coins et viroles de monnayage, ainsi que la dépense nécessitée par la vérification individuelle du poids et des empreintes des monnaies courantes d'or et d'argent, seront prélevés sur les frais alloués pour la fabrication de ces monnaies; ce prix et cette dépense seront payés par le directeur de la fabrication d'après le mode à prescrire par notre ministre des finances.

ART. 2. L'article 1er de l'arrêté royal du 16 octobre 1832 est abrogé.

ART. 3. Notre ministre des finances est chargé de l'exécution du présent arrêté.

Donné à Bruxelles, le 28 mars 1870.

LÉOPOLD.

Par le Roi:

Le Ministre des Finances,

FRÈRE-ORBAN.

B 13.

Arrêté ministériel du 29 mars 1870, fixant le prix des coins et viroles et les frais de vérification.

Le ministre des finances, vu les lois du 22 vendémiaire an IV et du 21 juillet 1866, ainsi que les arrêtés royaux du 30 décembre 1848 et du 28 mars 1870, voulant régler:

A. Le prix des coins et viroles nécessaires à la frappe des espèces courantes d'or et d'argent;

B. Les frais de vérification individuelle du poids et des empreintes desdites espèces présentées en délivrance;

C. Le mode de payement de ces fournitures et de ces frais;

Sur la proposition du commissaire des monnaies, le secrétaire général entendu, arrête:

ART. 1er. Les coins et viroles, soumis à l'épreuve normale du balancier et acceptés par l'administration des monnaies, sont payés par kilogramme de pièces fabriquées.

ART. 2. Il est alloué:

Pour les coins:

A. Des monnaies d'or:

1° Quinze francs (fr. 15) par 100 kilogrammes de pièces de vingt francs;

2° Vingt francs (fr. 20) par 100 kilogrammes de pièces de dix francs.

B. De la monnaie d'argent courante, cinq francs (fr. 5) par 100 kilogrammes de pièces de cinq francs.

Pour les viroles brisées:

1° Trois francs vingt-deux centimes (fr. 3.22) par 100 kilogrammes de pièces de vingt francs.

2° Quatre-vingts centimes (c. 80) par 100 kilogrammes de pièces de cinq francs d'argent.

ART. 3. Ces prix sont payés au graveur, par le directeur de la fabri-

cation, sur état dressé par le contrôleur au change et au monnayage et approuvé par le commissaire des monnaies.

ART. 4. Les frais de vérification individuelle du poids et des empreintes des espèces courantes d'or et d'argent sont payés par kilogramme de pièces présentées en délivrance.

ART. 5. Il est alloué:

A. Pour monnaies d'or:

1° Sept francs quatre-vingts centimes (fr. 7.80) par 100 kilogrammes, de pièces de 20 francs;

2° Quinze francs soixante centimes (fr. 15.60) par 100 kilogrammes de pièces de dix francs.

B. Pour monnaies d'argent:

Un franc cinquante centimes (fr. 1.50) par 100 kilogrammes de pièces de cinq francs.

ART. 6. Ces frais sont payés au contrôleur au change et au monnayage par le directeur de la fabrication sur état dressé par ledit contrôleur et approuvé par le commissaire des monnaies.

ART. 7. Les dispositions de nos arrêtés du 4 décembre 1865 et du 11 juin 1868, qui sont contraires au présent arrêté, sont abrogées.

ART. 8. Le secrétaire général et le commissaire des monnaies sont chargés, chacun en ce qui le concerne, de l'exécution du présent arrêté.

Bruxelles, le 29 mars 1870.

Le Ministre des Finances,
FRÈRE-ORBAN.

B 14.

Arrêté royal du 10 *novembre* 1870, *modifiant les frais de fabrication des monnaies d'or et d'argent effectuée pour le compte du trésor et de la Banque nationale.*

Léopold II, Roi des Belges, à tous présents et à venir, salut.

Vu l'art. 2 de la loi monétaire du 21 juillet 1866;

Revu notre arrêté du 10 octobre 1870;

Voulant compléter le règlement des frais de fabrication des monnaies d'or et d'argent effectuée pour le compte du trésor public et de la Banque nationale;

Sur la proposition de notre ministre des finances, nous avons arrêté et arrêtons;

ART. 1er. *Par dérogation* à l'art. 1er de notre arrêté du 25 mars 1867, les frais de fabrication des monnaies d'or et d'argent indiqués aux art. 2 et 3 de la convention monétaire du 23 décembre 1865, et effectués pour le compte du trésor public ou de la Banque nationale, sont fixés, tous déchets compris:

A. Par kilogramme de monnaie d'or, à cinq francs, (5 fr.;)

B. Par kilogramme de monnaie d'argent, à un franc trente centimes, (1 fr. 30 c.)

ART. 2. Notre ministre des finances est chargé de l'exécution du présent arrêté.

Donné à Bruxelles, le 10 novembre 1870.

LEOPOLD.

Par le Roi:
Le Ministre des Finances,
VICTOR JACOBS.

B 16.

Arrêté ministériel du 30 juin 1873, modifiant les frais de vérification des espèces courantes d'argent.

Le ministre des finances, vu l'art. 16 de l'arrêté royal du 30 décembre 1848, vu l'arrêté royal du 28 mars 1870, revu notre arrêté du 29 mars 1870;

Voulant mettre la rémunération allouée pour la vérification individuelle du poids et des empreintes des espèces courantes d'argent mieux en rapport avec les frais qu'occasionne cette opération;

Sur la proposition du commissaire des monnaies, le secrétaire général entendu, arrête:

ART. 1er. Par dérogation au § *B* de l'art. 5 de notre arrêté du 29 mars 1870, les frais de vérification pour les monnaies d'argent sont fixés à deux francs (2 fr.) par 100 kil. de pièces de 5 francs.

ART. 2. Le secrétaire général et le commissaire des monnaies sont chargés, chacun en ce qui le concerne, de l'exécution du présent arrêté, qui devient obligatoire à partir de ce jour.

Bruxelles, le 30 juin 1873.

Le Ministre,
MALOU.

B 15.

Internal management National Bank of Belgium.

CHAP. II, SEC. II.—*Of transactions in precious metals.*

ARTICLE 19. The banks buys, within a limit which it determines, the materials and gold and silver species at the price of the tariff of the mint.

From these prices are deducted, if there is need, the costs of refining, (affinage.)

ARTICLE 20. The materials of gold or silver offered for sale should be accompanied with a certificate of assay (test) of the standard of these materials granted by an assayer accepted by the bank. The sellers, besides, engage themselves, by writing, to remain responsible for the fine quality stated on the certificate produced by them.

ARTICLE 21. The bank accepts gold and silver species at the registered standard upon the tariffs of the mint-bureau of exchange.

ARTICLE 22. In case of contestation upon the standard registered on the certificate accompanying the gold or silver species, or on the standard of the gold and silver species stated on the tariff of the mint-bureau of exchange, the contestation is submitted to the decision of the commissioner of the mints. The sellers bind themselves, in writing, previous to any transaction, to submit to this dicision.

ARTICLE 23. In consideration of a reduction, to be fixed upon by the bank, on the prices stipulated in the nineteenth article above, the seller may reserve to himself the right of repurchase, during a term of 18 days, of the refining-bonds and of the materials or species sold by him to the bank. The latter delivers to him, in this case, an acknowledgment mentioning the sum to be paid the bank by the bearer, as well as the nature of the materials or species to be withdrawn, their

quantity expressed in kilograms of metal fine if there is question of materials, or in number if there is question of species.

The bearer is prevented, under pain of forfeiture, exercising his right of repurchase within the delay expressed upon the document delivered by the bank.

ARTICLE 24. The bank discounts the money-bonds and the refining-bonds when the term of these last exceeds 18 days. The discount of these bonds is at the minimum of one in a thousand for materials in silver and of one-half in a thousand for materials in gold.

By order of the general council at the sitting, October 26, 1872.

The Governor,
ENG. PRÉVINAIRE.

The Secretary,
J. DUPONT.

Approved by the minister of finances, October 30, 1872.

J. MALOU.

B 17.

BELGIUM MINISTRY OF FINANCES.

Law continuing the act of December 18, 1873, relative to the coinage of silver.

Leopold II, King of the Belgians, to all to whom these presents shall come, greeting:

The chambers have adopted and we sanction what follows:

SOLE ARTICLE. The law of December 18, 1873, will remain in force until January 1, 1877.

We promulgate the above law, and order that it be stamped with the seal of the state and published in the Moniteur.

Given at Laeken, this 27th of April, 1875.

LEOPOLD.

By the King:
The Minister of Finances.
J. MALOU.

Examined and sealed with the seal of the state.

The Minister of Justice,
T. DE LANTSHEERE.

B 18.—COINAGE OF

Tableau présentant par année la valeur nominale de toutes les monnaies

Années.	En pièces de cuivre				
	de 4 centimes.	de 2 centimes.	de 5 centimes.	de 10 centimes.	Total.
1832				99, 330. 80	99, 330. 80
1833	50, 073. 23	334, 958. 38	221, 839. 90	99, 965. 40	706, 236. 61
1834		65, 357. 06	125, 730. 80		191, 087. 86
1835	43, 672. 49	535, 480. 14			579, 152. 63
1836	42, 557. 20	541, 673. 00			584, 230. 20
1837			601, 879. 75		601, 879. 75
1838					
1839					
1840					
1841		44, 528. 74	125, 425. 90		169, 954. 64
1842		56, 452. 28	276, 827. 00		333, 279. 28
1843					
1844	18, 219. 47	36, 034. 78			54, 254. 25
1845	83, 242. 86	166, 480. 06			249, 722. 92
1846	82, 409. 54	161, 760. 58			244, 170. 09
1847	51, 382. 59	68, 632. 02	56, 526. 20	13, 469. 60	190, 010. 41
1848	3, 830. 31	8, 398. 72	92, 257. 70	41, 096. 30	145, 583. 09
1849	12, 184. 82	73, 805. 22	72, 357. 10	36, 574. 90	194, 922. 04
1850	23, 085. 09	8, 071. 56	134, 451. 25		165, 607. 90
1851		48, 138. 06	119, 052. 95		167, 191. 01
1852		14, 621. 84	97, 145. 05		111, 766. 89
1853		9, 316. 60	35, 242. 65		44, 559. 25
1854					
1855		3, 423. 98	13, 243. 50	2, 824. 00	19, 491. 48
1856	24, 280. 36	125, 102. 28	282, 794. 00	16, 252. 60	448, 429. 24
1857	9, 481. 75	92, 238. 94	114, 965. 15		216, 685. 84
1858	9, 164. 41	63, 544. 96	135, 575. 95		208, 285. 32
1859	9, 822. 51	81, 483. 74	129, 564. 35		220, 870. 60
1860	15, 606. 03	61, 403. 64	9, 949. 85		87, 159. 52
1861	16, 963. 46	58, 472. 06			75, 435. 52
1862	119, 069. 67	131, 781. 16			250, 850. 83
1863		372, 424. 56			372, 424. 56
1864		336, 792. 24			336, 792. 24
1865		48, 945. 94			48, 945. 94
1866					
1867					
1868					
1869	50, 643. 41	59, 438. 60			110, 082. 01
1870	39, 300. 00	513, 075. 60			552, 375. 60
1871					
1872					
1873	20, 363. 17	149, 812. 74			170, 175. 91
1874	39, 067. 28	157, 518. 56			196, 585. 84
1875	29, 704. 61	158, 635. 36			188, 339. 97
Totaux	794, 324. 23	4, 587, 803. 46	2, 644, 829. 05	308, 913. 30	8, 335, 870. 04

BELGIUM, 1832–'75.

fabriquées à l'Hôtel des Monnaies de Belgique depuis 1832 *à* 1875, *inclus.*

En pièces d'argent							
de 20 centimes.	de ¼ de franc.	d'un demi-franc.	de 1 franc.	de 2 francs.	de 2½ francs.	de 5 francs.	Total.
						186, 760	186, 760. 00
		29, 175. 00	60, 836			5, 628, 330	5, 718, 341. 00
188, 047. 00		789, 023. 50	481, 551	552, 712		1, 749, 880	3, 761, 213. 50
160, 004. 75		402, 521. 00	830, 698	450, 110		1, 848, 840	3, 692, 173. 75
		275, 183. 50	525, 362	600, 610		26, 015	1, 427, 170. 50
		173, 685. 00	261, 041	472, 682			907, 408. 00
	2, 000. 00	182, 000. 00		1, 469, 000			1, 653, 000. 00
	241, 500. 00	792, 000. 00	2, 196, 400	966, 000		401, 000	4, 596, 900. 00
						3, 498, 005	3, 498, 005. 00
					1, 398, 537. 50	12, 581, 415	13, 979, 952. 50
			40, 662		5, 007, 115. 00	34, 610, 475	39, 658, 252. 00
	25, 209. 00	104, 785. 50	162, 016		397, 880. 00	26, 326, 480	27, 016, 370. 50
						18, 539, 610	18, 539, 610. 00
60, 128. 00						23, 023, 380	23, 083, 508. 00
393, 010. 80						12, 132, 990	12, 526, 000. 80
173, 050. 40						90, 510	263, 560. 40
						4, 536, 800	4, 536, 800. 00
		3, 403, 000. 00	3, 041, 000	3, 884, 000			10, 328, 000. 00
		507, 000. 00	6, 652, 000	7, 578, 000		18, 465, 720	33, 202, 720. 00
		537, 932. 00	675, 000	4, 328, 460		32, 852, 820	38, 394, 212. 00
			1, 393, 608			63, 287, 710	64, 681, 318. 00
						52, 340, 375	52, 340, 375. 00
						23, 917, 170	23, 917, 170. 00
						10, 225, 000	10, 225, 000. 00
						111, 704, 795	111, 704, 795. 00
						12, 000, 000	12, 000, 000. 00
						14, 904, 705	14, 904, 705. 00
626, 189. 20	616, 760. 75	7, 196, 305. 50	16, 320, 174	20, 301, 574	6, 803, 532. 50	484, 878, 785	536, 743, 320. 95

B 18.—*Coinage of Belgium*

Années.	En pièces d'or			
	de 10 francs.	de 25 francs.	de 20 francs.	Total.
1832				
1833				
1834				
1835				
1836				
1837				
1838				
1839				
1840				
1841				
1842				
1843				
1844				
1845				
1846				
1847				
1848		8, 037, 425		8, 037, 425
1849	371, 880	3, 749, 575		4, 121, 455
1850	633, 270	1, 853, 875		2, 487, 145
1851				
1852				
1853				
1854				
1855				
1856				
1857				
1858				
1859				
1860				
1861				
1862				
1863				
1864				
1865			20, 522, 060	20, 522, 060
1866			10, 639, 260	10, 639, 260
1867			26, 826, 140	26, 826, 140
1868			27, 634, 980	27, 634, 980
1869			24, 689, 480	24, 689, 480
1870			63, 824, 060	63, 824, 060
1871			45, 179, 440	45, 179, 440
1872				
1873				
1874			60, 927, 000	60, 927, 000
1875			82, 685, 060	82, 685, 060
Totaux	1, 005, 150	13, 640, 875	362, 927, 480	377, 573, 505

1832-'75, *&c.*—Continued.

En pièces de nickel				Total général des monnaies de toute espèce fabriquées et mises en circulation—	
de 5 centimes.	de 10 centimes.	de 20 centimes.	Total.	Par année.	Depuis 1832.
				286, 090. 80	
				6, 424, 577. 61	6, 710, 668. 41
				3, 952, 301. 36	10, 662, 969. 77
				4, 271, 326. 38	14, 934, 296. 15
				584, 230. 20	15, 518, 526. 35
				601, 879. 75	16, 120, 406. 10
				1, 427, 170. 50	17, 547, 576. 60
				907, 408. 00	18, 454, 984. 60
				169, 954. 64	18, 624, 939. 24
				333, 279. 28	18, 958, 218. 52
				1, 653, 000. 00	20, 611, 218. 52
				4, 651, 154. 25	25, 262, 372. 77
				249, 722. 92	25, 512, 095. 69
				244, 170. 09	25, 756, 265. 78
				3, 688, 015. 41	29, 444, 281. 19
				22, 162, 960. 59	51, 607, 241. 78
				43, 974, 629. 04	95, 581, 870. 82
				29, 669, 123. 40	125, 250, 994. 22
				18, 706, 801. 01	143, 957, 795. 23
				23, 195, 274. 89	167, 153, 070. 12
				12, 570, 560. 05	179, 723, 630. 17
				19, 491. 48	179, 743, 121. 65
				448, 429. 24	180, 191, 550. 89
				216, 685. 84	180, 408, 236. 73
				471, 845. 72	180, 880, 082. 45
				220, 870. 60	181, 100, 953. 05
				87, 159. 52	181, 188, 112. 57
412, 963. 20	908, 014. 50	360, 734. 00	1, 681, 711. 70	1, 757, 147. 22	182, 945, 259. 79
707, 469. 00	1, 512, 902. 70		2, 220, 371. 70	2, 471, 222. 53	185, 416, 482. 32
802, 753. 60	1, 448, 165. 90		2, 250, 919. 50	2, 623, 344. 06	188, 039, 826. 38
125, 628. 70	320, 234. 20		445, 862. 90	782, 655. 14	188, 822, 481. 52
				25, 107, 805. 94	213, 930, 287. 46
				20, 967, 260. 00	234, 897, 547. 46
				60, 032, 860. 00	294, 926, 407. 46
				66, 029, 192. 00	360, 955, 599. 46
				89, 480, 880. 01	450, 436, 479. 47
				116, 716, 810. 60	567, 153, 290. 07
				69, 096, 610. 00	636, 249, 900. 07
				10, 225, 000. 00	646, 474, 900. 07
				111, 874, 970. 94	758, 349, 870. 98
				73, 123, 585. 84	831, 473, 456. 82
				97, 778, 104. 97	929, 251, 561. 79
2, 048, 814. 50	4, 189, 317. 30	360, 734. 00	6, 598, 865. 80	929, 291, 561. 79	

Certifié exact:

Le Contrôleur au Change et au Monnayage,
CHS. VAN DER BEKEN.

Vu et vérifié:

Le Commissaire des Monnaies,
A. SAINCTELETTE.

C.—*Answers to Interrogatories and request addressed to the representatives of the United States in foreign countries.*

Question No. 1. Has any change taken place in the country to which you are accredited in the relative value of gold and silver during the past fifteen or twenty years?

From the 5th of June, 1832, Belgium adopted the French monetary system, (gold and silver,) and that in the interest of the commercial relations of the two countries; the Belgian legislation then was but the reproduction, word for word, of the French laws.

Question No. 3. To what causes are attributable the changes that have taken place in such country in the relative value of gold and silver?

It is useful, if not indispensable, so as to be able to appreciate at their right value the changes that have taken place in the relative value of the two metals in Belgium, and above all to calculate exactly the consequences, to go back to the commencement of certain French laws, still in force, in order to define exactly the starting-point of the changes that have since taken place.

The principle of the French monetary laws, and in consequence of those of Belgium, rests on the simultaneous use of gold and silver as money, and that in the proportion of 1 of gold to $15\frac{1}{2}$ of silver. One franc (in silver) weighing 5 grams at the standard of $\frac{900}{1000}$, and 20 francs (gold) weighing 6.45161 at the standard of $\frac{900}{1000}$. The silver franc, therefore, weighs in fine silver fifteen and one-half times more than the gold franc.

That which is most necessary to notice here is that when this relation was established, in 1803, (3 Germinal, eleventh year of the French Republic,) it only took its source in the law that created it, which existed, neither in nature, which produced at this epoch 1 kilogram of gold against 29 kilograms of silver, (see report of Mr. Daru in Moniteur of 1803,) nor in the mean market-price, which gave at this time the relation of 1 to $14\frac{3}{10}$, (see with this annexed report of Lebreton from the financial section of the National Assembly, French Republic, 1803, marked "C," Appendix 1;) neither at the price of the foreign markets, which were established at this date in Spain and Portugal (whence the metals then came into Europe) in the relation of 1 to 16. (See the report of Mr. Daru, referred to above.)

The relative value of 1 to $15\frac{1}{2}$ not being, therefore, produced by nature, nor by the market-price of the time when it was established, rests thus: it was simply created and imposed by the *law*.

I shall have occasion further on to recall this starting-point, upon which I wish to draw your particular attention.

Belgium, by the law of the 5th of June, 1832, became, in a monetary point of view, in some sort, the satellite of France, and in the study of the question of the precious metals in Belgium, it is very difficult not to establish a sort of communalty between it and that of France, which in fact is rendered still more intimate by the common line of frontier, the similitude of manners and language, and the multiplicity of their relations.

France, since 1803, has remained indissolubly fixed to the same monetary system, and she has arrived at a monetary development unique in the world. From 1850 to 1868, France coined in gold and 5-franc pieces (in silver) the sum of 6,709,856,241 francs for herself alone, a sum nearly equal to what the United States and England coined between them; (in round numbers, 7 milliard 200 million francs.)

Belgium, on the contrary, having no monetary existence before 1832,

several times since to modify its monetary system. March straitened by the want of money, fearing the disappearance hich was seen very rarely in circulation, and not content with monetary standards created by the law of 1832, the Belgian decreed the creation of a piece of 25 francs, and its adjuvant, f 10 francs, of the weight of 7.91556 grams at $\frac{900}{1000}$ pure, ng thus between gold and silver a legal relation of 1 to 15.79 alling in the 20-franc pieces, which remained as before in on of 1 to 15½; this being in some sort a *third* monetary

gislative measure not having sufficed to restore to Belgium the movement which was wanting in its trade and industry, the rch, 1848, she gave a forced currency to the English sovereign, hich weighed 7.981 grams at the standard of $\frac{916}{1000}$, for 25.50 ld to the Dutch florin, weighing 10 grams at the standard of he value of 2.10 francs.

utch florin was admitted relatively to the piece of 20 francs its parity with the piece of 5 francs, (silver,) thus preserving rtion of 1 to 15½. But the adoption of the English sovereign der the conditions above named established between that and ne piece (silver) a new proportion of 1 to 15.69⅔, which was a *ourth* standard.

w of the 4th of March, 1848, had but a short existence. It gated the 28th of the following September.

spoken of this law principally to show this important fact, ium suffered from the want of coin and metal, notwithstanding y of the law which allowed it to coin the two metals, and thus ing into coin the one which costs the least.

, it is true, was at this moment under the influence of a politi- notion and a revolutionary fever, limiting credit and neces- large amount of coin to support the financial edifice, industrial mercial, ready to fall. It is well, nevertheless, to take these trictly into account, and to consider them rare exceptions; but ey do come one must be prepared to meet them, or lose in one benefit of hard work and savings which have been slowly . It is principally at the inevitable moment of a crisis that the metals have a rôle so much the more salutary to fulfill.

But the recollection of these circumstances did not last long. California had just begun to menace the world with its treasures, when there appeared in France the school of "monometallists," at the head of which shone Mr. Michel Chevalier. Now gold would certainly fall in value. (?)

From December 28, 1850, the Belgian chamber voted the complete suppression of the gold currency, and by this act maintained in circulation silver as the only standard.

After an experience of eleven years Belgian trade and industry had so strongly felt the consequences of the creation of the one standard (silver) that it compelled the chamber to adopt (against the wishes of the then government) the primitive *régime* of the double standard, such as it existed in 1832, giving this time legal currency to French gold coin in Belgium. (Law 4th June, 1861.)

This legal currency of French coin in Belgium was consecrated by reciprocity in the treaty of the 23d December, 1865, and was the last stage pursued in Belgium before going back, after twenty-eight years of changing and trial, to the monetary basis decreed in France in 1803.

During all the time to which I have called your attention France had

taken no measure which could fetter the currency of the precious metals. This was the result of its monetary laws, which had reigned for more than sixty years.

The trials made in Belgium, or the sort of evolution which she had made to return to her starting-point, would seem to indicate that France had indeed reason to change nothing in its monetary system.

We will pursue our researches in reference to this.

Question No. 2 A. Give the average annual value of pure silver in pure gold, or pure gold in pure silver, or their equivalents in "standard" gold or silver in s country.

What influence could the legislative changes in Belgium, which have now shown, make in the relation of the two metals?

What would be the mean annual value of these two metals?

The value of the two metals being regulated in Europe by the E lish market, the smallness of the Belgian market is a sufficient rea that these changes could not have had any marked effect.

But more; and here again there is an important point to notice, as long as France so situated in Europe as to be a market, where ev one could go and give or receive one of these two metals, and that the proportion of 1 gold for 15½ silver, it was impossible that this portion should not be kept up in a firm way in England and elsewh

This vast metallic reservoir, called France, which, let us say at o is the largest in the world, since, in 1871, there had been imported i France, from the commencement of the law of the year 1803, the er mous sum of more than 12 milliards of francs, (of which 6 milli were in the reign of Napoleon III,) when, according to the most acc ited estimates, (Dr. Soetbeer,) the total stock of metals in the weste civilization was scarcely equal to 44 milliards in 1867.

France, with this power, was a market where gold and silver could be bought or sold at a fixed rate of 1 to 15½, (silver, 222.22 the kilogram; gold, 3,444.44 the kilogram; that is to say, pieces of 5 and of 20 francs,) and this price forced itself on all nations.

Nowhere, in fact, would they consent to give more than 15½ of silver to obtain 1 of gold as long as it was only necessary to go to France to obtain it. And no one would consent to give more than 1 of gold for 15½ of silver as long as the French market was ready to satisfy this demand.

The legal rate adopted in France was thus the rate that regulated the world.

Such is the principle which, I think, has maintained until 1873 the universal relations between gold and silver.

This principle is naturally modified in practice, and it must be borne in mind that, when the metallic reserves of the French circulation are drawn upon, the pieces are worn, and have lost their weight; that the French circulation could in certain cases have more need of metal than others, and that they would have to pay a premium to the holders to induce them to give it up. It was thus that in 1856 the two metals were at a premium in Paris, gold 6 per cent. and silver 24 per cent.; and that in October, 1871, gold was in demand there at a premium of 23 per cent. and silver 34 per cent. Discount was dear and credit difficult to obtain.

Whichever it might be of these passing fluctuations, the legal relation established in the vast French reservoir by the law of 1803 prevented any notable deviation taking place between gold and silver, even in countries where silver is not legal tender; such as England.

We must remember that the proportion between gold and silver might

be from 1 to $14\frac{3}{10}$, when France legally adopted 1 to $15\frac{1}{2}$ in the year 1803.

I have asked at the commencement of these inquiries that this fact should be remembered that it was at its first appearance the power only of *law*, which forced on the world the proportion of 1 to $15\frac{1}{2}$, decreed in 1803.

We shall now see that notwithstanding the discovery of California and Australia, it was still the force of this law which prevented this proportion from straying beyond the practical limits of which we are going to speak.

In 1847, before the discovery of California, silver cost in London $59\frac{1}{2}$ the standard ounce; that is to say, a proportion of 1 to 15.94. Following the discovery of California and Australia, seconded by the enormous need of silver for India, silver mounted in price, but the highest price it could attain was $62\frac{1}{16}d.$ the ounce in 1859; that is to say, in proportion to gold of 1 to 15.11. Finally, in 1873, Germany on one hand, having legally decreed the demonetizing of its silver, and the adoption of the unique gold standard, from 1871, and selling its silver; India, again, having less use for silver, this metal lost again its value and descended to $59\frac{1}{2}$ the ounce in London. Thus the proportion with gold became 1 to 15.94, equal figures to that of 1847.

Thus, during 26 years, when the world was delivered to a veritable revolution in the *production* of the metals, the legal proportion existed in France between gold and silver, and could maintain on the London market the equilibrium between the two metals, thus preventing the disastrous consequences that had been predicted from the immense auriferous productions of California and Australia.

It was at this epoch of 1873 that there came to be grafted upon this question of the price of the two metals in Europe, the limitation of the coining of silver into pieces of 5 francs in the four states united by the convention (called Latin) of the 23d of December, 1865.

Caring little to assist Germany (which had just separated from their monetary principles) in the advantageous placing of its silver, at the moment even when India seemed not to be in condition to absorb it, and when the new silver mines in America had just taken a new extension, France, Italy, Switzerland, and Belgium (without renouncing the principle of coining the two metals) reduced, for the four states, the coinage of silver, limiting it to 140,000,000 francs in 1874, 150,000,000 francs in 1875, 120,000,000 francs in 1876. This last year comprised Greece, which had acceded later to the convention of 1865.

From this instant the equilibrium previously existing between the price of gold and silver must inevitably be broken, since the vast reservoir which, from 1803, was formed in France and in the other states of the Latin Union, and which served thus, as we have seen, to maintain the equilibrium in the world, could not longer work freely, since this legal disposition prevented the free flow into France of that metal which was the most abundant at any given time, as had been its natural course for three-quarters of a century.

It was from this date, and through these legislative measures, that was produced a shock (more severe than was ever known before) in the relative value of the two metals, which established, so to speak, a silver crisis.

Question No. 2 B. What metal or metals constitute the standard of value in such country?

The Belgian government, as well as the other states of the union of 1865, would not permit coinage in any other establishment than that

which belonged to and was under its immediate and permanent control; but at this establishment, the only one open to the public, they were obliged to coin all that was handed to them in gold or silver, giving back in fabricated coin 220.55½ francs for each kilogram of pure silver, and 3,437 francs for each kilogram of pure gold.

Question No. 6. Upon what terms of seigniorage or brassage are gold and silver bullion respectively coined in such country?

The piece of 5 francs being issued at 222.22 francs the kilogram, and the piece of 20 francs 3,444.444 francs the kilogram, this being the difference paid by the owner or bearer of the material for the cost of fabrication.

This was the mode which prevailed before 1873, and which in principle exists still in the monetary law.

But, in fact, since 1873 this proportion of 1 to 15½ (of 222.22 francs to 3,444.444 francs) has been legally broken, the public not being able to turn silver into coin; the Belgian government having reserved the right to itself to strike off the limited contingent indicated in the international conventions.

Though these restrictions were imposed only as a temporary measure, they were far from implying the giving up of the double standard, since Mr. Tisserence de Bort, judge-advocate, said formerly of one of these restrictive laws, in the national assembly of France, on the 6th June, 1874, that these laws had not for their aim the modification of the monetary system, but, on the contrary, had no object but to maintain it intact. Notwithstanding, I say, the provisionary character of this legislative measure was, that from the moment of its being put into execution, that the fall in silver was shown, with the intensity that we shall show later, throwing perturbation in the relations between Europe, America, and India, stopping enterprise, reducing the universal monetary capital, and that at a moment when the nations already felt the evil of the forced paper currency.

It is thus that in the year 1874 pure silver descended to its lowest price, 57½, and highest, 59½, per ounce, standard, establishing at the lowest the relation of 1 to 16.47 between gold and silver. The year following, 1875, pure silver fell again and attained at the lowest 55⅝, and the highest 57⅝; the proportion being 1 to 16.95 at the lowest.

And, finally, in 1876, pure silver fell in London to 46¾, and rose only to 55⅞ at the highest, establishing at the lowest price the equivalent between gold and silver of 1 to 20.17.

The more marked the fall, and consequently the more sudden the variations, the more the uncertainty in the market, even to the point of rendering it impossible to settle any transactions involving settlements in silver, and the stoppage to a great extent of commercial and industrial affairs.

Question No. 5. What effect, if any, have such changes in the relative market-value of gold and silver had upon the trade and commerce and productive industries of such country, and upon its legal standard of value, or the legislation or measures of government connected therewith?

What effects could the changes which we have just passed in review have exercised upon commerce, finance, and productive industry?

This question is complex, and in resolving it it is often very difficult to distinguish cause from effect and *vice versa*.

Therefore, if I examine the coinage that France has effected from 1850 to 1861, I see that she has coined the enormous sum of 4,467,000,000 francs gold and 351,327,000 francs silver; a total of 4,818,327,000 francs.

Belgium, as we have seen before, had willed, by its law of 28th December, 1850, to withdraw itself from the gold standard, and had during the same period only coined the relatively insignificant sum of 80,000,000 francs; it is true, composed solely of silver.

If we examine, on the other hand, the situation of general trade, we see by the figures brought forward by Mr. Emile Delavelleye that for twenty years the foreign commerce of England had only increased 97 per cent., although France had increased hers 164 per cent., and that Belgium, united to her for the last sixteen years, is able to show an increase of 277 per cent. Here we show for the last twenty years an advantage for Belgium; but if we enter into the statistics for the years when Belgium was suffering from its monetary experiments, (always costly,) this proportion would be modified in favor of France, and we can show that the commerce of France has made greater progress than that of Belgium. The general commerce of France, which in 1847 was figured by 2,613,500,000 francs, was, in 1873, 9,399,000,000 francs. Thus an increase was made of 254 per cent., realized in twenty-six years, whereas the same figures in Belgium, amounting to 732,200,000 in 1847, have only reached 1,773,700,000 in 1873, realizing only an increase of 142 per cent. in the same time—twenty-six years.

Now, is it the prosperous situation of France that has brought this mass of metal to be coined, or, on the contrary, the new facilities offered by this metal, and which have there developed firmness, activity, and tranquillity in making trade productive, which has brought such prosperity that until now was never known; prosperity which permitted her later to pay the 5,000 millions beyond the expenses of the war of 1871 without producing any embarrassment or crisis?

Many reasons lead us to believe that money has a creative power in business.

For example, it has been shown (see Levasseur, Question d'Or) that from 1815 to 1848 the average of coin struck in France had been 39 millions per annum, and the average of commerce, 1,300 millions. Since 1848 the average coinage has risen to 321 millions; that is to say, more than three times the average of the preceding period. The average of commerce has also nearly tripled. In 1856, the year during which was coined 562 millions, commerce reached 4,587 millions.

Metals transformed into coin are, according to the most accredited opinions, useful to production; and we must, I think, recognize the truth of this opinion in practice.

It seems certain at the present date that the abundance of specie has two successive effects: first of all, it lowers the rate of discount, and, later on, in consequence of this, raises prices.

Now, cheap and stable discount is one of the most fruitful sources of prosperity.

The money market is so susceptible to the influence of the precious metals that the least event which affects the metal in Europe is sufficient to bring about a higher rate of discount in the public banks, which every one knows take for their base metallic reserves, so as to fix the conditions on which business is operated.

If we examine the rate of discount that has ruled in the country where the gold standard reigns *par excellence*—in England—and if we compare it to the rate of discount that has ruled in France under the influence of the two metals, we think that the comparison will be in favor of the bimetallic circulation of France.

Since the act of 1844, which governs the Bank of England, and which works under the *unique* gold coin, it has changed its rate of discount 196 times, ranging from 2 to 10 per cent.

During the same time the Bank of France, whose metallic reserves were both gold and silver, had only changed 87 times, without lowering its rate below 3 per cent. and not raising it above 7 per cent., working thus within a deviation of 4 per cent., instead of 8 per cent., as in England.

Is there not, in this situation of the discount of the two countries, a cause for the progress of commerce and industry to the advantage of France and its monetary system?

I think that the indications which precede are new arguments to support the thesis, developed recently in a very eloquent manner by Mr. William Kelley, member of Congress for Pennsylvania, in an address to the citizens of Philadelphia, 1876, and in his speeches of 19th February and 16th March, 1876.

It does not appear doubtful that abundant means of exchange constitute a powerful stimulent to production. Coin, in this point of view, must not be regarded as veritable riches, of which the rise or fall must command constant and direct thought; but more like a *machine*, (costly it is true,) which, like all other machines, must be regarded from the result which it produces, rather than that of its own intrinsic value. It is good that this machine (this means which is called money) is the most powerful in action, must always be kept in movement, and must also be the most prompt to exercise its influence in order to increase the commerce of the country through the channels of trade, industry, and finance.

Figures prove to us that France has only to congratulate itself upon the results obtained through this idea.

I take the liberty of remarking that the results thus attained, after the experience of three-fourths of a century, were foreseen by those who founded in France the double standard.

Let us recall the prediction of the section of finance of that date, (see C.—Appendix 1,) "You know that it is not with the metals that the bulk of commerce is made, but by the exchange that nations make between each other of the produce of their soil and of their industry."

To speak correctly, the metals only serve to settle the balance of trade.

It is not, therefore, exchange alone which gives the balance of profit and loss to commerce. We can find in comparing the importations and exportations the real compensations and losses that exist in exchange.

We have seen that the prediction made in 1803, when the section of finance presented to France its bimetallic monetary system, that they were not mistaken; far from that.

I think I have shown clearly by the preceding considerations that the principal cause of the depreciation of silver was the legal decision taken in 1873 not to work the double standard (gold and silver) in France, Italy, Belgium, Switzerland, and Greece.

Prussia had only sold during three years 120,000,000 of marcs; that is, 150,000,000 of francs; the mines of Nevada presenting, without doubt, nothing more startling than California and Australia. Yet all lead us to believe that these influences would not have caused the immense trouble which followed, if the ancient reservoir of France and its four monetary satellites could have continued to work as before.

Question No. 4. Are these causes regarded as permanent, or is it believed to be likely that they will ultimately be overcome by the relative cost of producing or procuring the precious metals, or by other influences or considerations?

Must the causes which have produced the fall of silver be regarded as permanent, or likely to cease in the future?

From what we have seen, two of these causes, the demonetization of

silver in Germany, and its limitation elsewhere, are human actions, and in consequence could find in legislative measures the direct remedy for the evil.

Will these legislative measures be taken?

I have faith enough in the wisdom of the future not to doubt, that in the actual crisis, measures will be taken dictated by the circumstances.

The demonetization of silver appears, from many motives, impossible to be realized.

There is not enough precious metal in the world to continue the progress already realized. The high rate of discount, and the struggles made by the banks to preserve it, would be a convincing proof, if there were not already sufficient proof, of the enormous sum of paper-money in irredeemable forced currency which circulates in the world. The United States, Austria, Russia, Italy, and many others want metal for their payments in specie.

From the figures of Mr. Newman, published by l'Economiste Francaise, the foreign commerce of the entire world was estimated for 1872 at 72 milliards. In 1852 it was but 30 milliards, equal to 140 per cent. increase in twenty years, or 7 per cent. per annum average.

This augmentation alone would be of a nature to absorb proportionally 7 per cent. of the existing metallic stock, valued in 1876 by Dr. Soetbeer at 44 milliards, which corresponds to 3 milliards of new metal, which the circulation has need of yearly, to continue its progressive movement.

Nature, we see, would be quite insufficient, in counting even upon gold and silver, if these establishments of credit were not multiplied in the world to create paper, supplemental to the metallic money, and facilitating the means of progress.

At the moment when such a want exists, can one think of demonetizing silver, and reducing people to the necessity of contending against sudden fluctuations in the rate of discount occasioned by the use of one single metal, *gold*, the production of which becomes less every year?

It seems, even, that the temptation of Germany, which had received 5 milliards as a war indemnity, and appeared to be in an exceptionally advantageous situation, did not offer to its imitators much encouragement.

To realize in three years 120,000,000 of silver marcs, Germany caused a fall of 10 per cent. upon a metal which France refused to employ, and it remains yet for her to sell, according to the estimation of MM. Sonnermann and Nasse, four times as much.

On the other hand, she struck, 31st December, 1875, 1,250,000,000 of marcs in gold, but without daring to put them in circulation, for fear of seeing them return to France, to be melted into pieces of 20 francs, or sent into England, whence this gold had been drawn, from the force of the premiums paid, exchange favoring this return. And the importations of foreign merchandise into Germany, augmenting each year in proportion much greater than the exportations. This tendency is still increasing every day.

It is thus that the excess of importations over exportations, which amounted in 1871 to 185,000,000 of thalers, was figured in 1874 by 484,000,000 of thalers, and for the last five years, a total of 1,550,000,000. of thalers, (nearly 6 milliards of francs,) necessitating an exportation of metal from Germany. This sad result attained by Germany does not seem of a nature to furnish anxious imitators.

According to the estimation of Dr. Soetbeer, the whole metallic stock existing in the western civilization, in 1867, amounted to 43 mill-

iards, of which 25 milliards were in gold and 18 milliards in silver. Admitting that the stock of gold remaining was sufficient, what loss would we not have to submit to in demonetizing silver: rarefying the means of exchange, ruining commerce and industry, and throwing trouble in the world's metallic market, and breaking all relations with the peoples who adhere to silver?

Two systems are therefore presented: the system of the *unique* standard, *gold*, which still works imperfectly and badly in Prussia, and the system of the liberty to coin the two metals, gold and silver, which still form the legal base of coinage in France, and which has stood the proof.

I do not doubt that the force of things will draw nations gradually towards the coining of the *two* metals. Those nations which have a forced currency of irredeemable paper-money, and those nations which are the producers of silver, (which said silver many, it seems, would be glad to throw out from the domain of public wealth,) according to my opinion, are the very ones who have the most immediate and imperative interest to take the initiative of a movement in a thorough understanding and agreement with the nations who *now* coin the *two* metals, *gold and silver*.

C 1.

Extract from the report of Lebreton to the tribunal of the French National Assembly in the name of the section of finance, sitting of the 2d germinal, year xi *of the French Republic*, 1803.

[Extract from the Moniteur of the period.]

Before entering upon a difficult and important question which is side by side with the considerations upon gold coins that I have just submitted to you, I shall remind you, tribunes, of the disposition of the project of law that we have examined, and the adoption of, which your section of finance proposes to you.

It is the limitation of the monetary unity, the fixation of the standards and weights, the kinds of divers metals, and the corresponding small notes.

The difficult question I have announced you, tribunes, is whether gold ought to be used as money or remain as merchandise. That is to say, whether it shall have a nominal and forced value in exchange, or whether it shall remain subject to the variations of commerce and a free agent.

This question is not an idle one; it is not one that ought to be left to abstract studies, and which might be looked upon as extraneous, as a scientific encumberment thrown *mal-à-propos* in a purely legislative *exposé*.

You are told on the authority of such majestic names as those of Locke and Newton, backed by the opinions of several of our contemporaries well versed in political economy, that there is a simple means, easy and even without great inconveniences, of remedying the variations so vexatious and sometimes so fatal between the metallic values; it is said that this means dispenses with recoinages, and even does away with the troubles of exchanges. It would consist in assigning the office of money to but one of the precious metals, to silver as the most abundant, and to leave to gold, its auxiliary, the service, unforced, of

circulating in ingots, whose weight and standard would be established, which commerce would estimate at its will, or whose value the government would declare from time to time, according to the rate of commerce.

Since it is incontestable that the disproportion of value between the metals which are required to perform the same functions is an evil, and since it is next to impossible to prevent this evil which results from the fact that several values cannot give a rule that shall be one, we are told, then, only recognize silver for a rule; gold will circulate beside it, second it, but without breaking the unity of the value that shall have been found at last.

If this were so, tribunes, gold coins would not be needed, and you see that we are rigorously within the question.

The principle and the inductions are so forcible that they appear not disproportionate to the difficulties, inextricable until now, which it flatters itself of overthrowing.

We see well enough that gold, though a free merchandise, will still circulate alongside of silver and will second it; but will it help it sufficiently?

It is not an officious service which gold is called upon to render, but a service of necessity. If it circulates less under this new form, will silver then be sufficient for a circulation, which is already wanting in impulse and extent.

This problem is not solved, and in this state of things one is reduced to a respectable hypothesis and to the risk of bold essay.

Now how far may one go on making experiments in monetary legislation? Your section of finance has thought that your wisdom would regret the former. Even were the opinions of statesmen in favor of the theory, before reducing it to practice, it would yet be necessary to take the time of transforming it into public opinion, for if ingot gold is not received in the market for the exchanges of cattle, &c., the risk, infinitely probable, of diminishing too much the means of circulation, presents itself in all its force. Now, no one will doubt but that it would be very difficult and very long to accustom the possessor of commodities to adopt this inovation.

It has been judiciously said that currency ought not to be touched but in times of perfect tranquillity; but however precious may be the one we may enjoy under this government since its existence, the time of perfect peace is not that which immediately succeeds a universal war, all the dissensions, the overturning of old fortunes, the beginning of new ones, the discredit of all signs and exchanges.

It is through these last considerations that your section of finance has come to the conclusion that there is not sufficient motive for the rejection of the old proportion in gold and silver of 1 to $15\frac{1}{2}$, established at the time of recoinage, said to be "of Calonne," and which the project of law preserves.

Here it is not want of conviction. We do not doubt but that this proportion is too great; it is the general conviction. The mean term of the relation between gold and silver in Europe is 1 to $14\frac{3}{16}$, (or 15 at the most.)

France, which is at the center of the movement of metals, which receives them from Spain and Portugal as much for its own consumption as for a part of the North and South of Europe, ought, it would seem, to adopt this mean term in its monetary system.

The inconveniences of this defect of proportion are, that the one of these metals whose value is relatively too high is brought to us by for-

eign exchange, which withdraws by means of it a real value, more considerable in the other less favored metal; and as it is gold which happens to be favored by the proportion established since 1785, it is silver which is withdrawn, as it is more useful in circulation, and gold is sent to us. This evil, brought about by exchanges, may and must cause a loss to general commerce.

It may happen that foreign exchange neglects this profit, the acquisition of which only depends upon itself when it is alone. But suppose (a thing which happens everywhere and in all times) that through any circumstance whatever our exchange is losing, this additional loss, with the constant loss from the bad proportion of gold and silver, brings about great speculations to our disadvantage. The industry which works the metals must suffer also from it, and counterfeiters may find in it another bait.

Among the motives which have determined us not to ask that a better calculated proportion between gold and silver be established, there is a decisive one, and that is, that all the "Louis" of the recoinage of 1785 would have to be depreciated in value to the extent of the fall which would take place in the proportion.

This coin exists in too great a quantity, and is already in too much discredit, to think of adding this to it. It is here again that can be applied those reasons of wisdom and of expediency set forth above. There are, however, some positive reasons which diminish the inconveniences of adopting the relation of 1 to 15½. Foreigners are obliged to pay us in francs. They often send their ingots to our monetary workshops to convert them into our coins. This was experienced before the revolution under the influence of this same proportion that we blame. If, in a given time, foreign countries could make us suffer the loss which we have just mentioned, would not the channels of commerce bring back to us in a less limited time the compensation for this loss?

You know that it is not with the metals that the bulk of commerce in mass is made, but by the exchange which nations make between each other of the produce of their soil and of their industry.

Metals serve, to be precise, only in settlement of balances. Therefore it is not exchange alone which gives the balance of commercial profit and loss, and by comparing imports with exports, real compensations can be found for the losses which would exist in exchange.

D.

BRUXELLES, *le* 31 *December*, 1876.

The CHAIRMAN *of the United States Monetary Commission:*

SIR: As the "silver question" and all that thereto relates is placed in the hands of the commission of which you are a member, I have thought it my duty to make you acquainted with the proposition forwarded by me to the American Government, on account of the practicability of the idea which led to it, and which, I doubt not, will receive a favorable reception at your hands.

I have the honor to be, sir, your most obedient servant,

The director,

J. ALLARD.

Proposition to the Government of the United States of America to render the price of silver more settled in Europe.

MEASURES TO BE TAKEN.

According to the last report of the Director, Mr. H. R. Linderman, the silver coinage of the United States for August and September far exceeded all previous limits.

Silver has been turned out during these two months at the rate of $32,882,460 a year, while the highest coinage reached up to that date (and corresponding to the year 1853, at the moment of the change in the standard) was only $9,077,571.

In order to meet this heavy coinage the United States have been forced to buy silver in Europe, or at least to pay for it at the Mint in America such a price that it was profitable to buy in Europe. Here is the sacrifice. These silver orders coming on a market already very unsteady, and, as a consequence of its unsteadiness, irregularly and poorly supplied, these sudden orders cause a rise in prices of a most unreasonable character; and they have also this other serious inconvenience: that this monetary rise has the effect of attracting silver to the market just at the time when the orders cease. The consequence is a violent drop in the price of the metal.

At one time there are orders, but no metal in the market; some days after there is metal, but no further orders.

That which I mention here has actually taken place only a few days since; and it is only necessary to glance at the quotations for silver in London to see the unreasonable fluctuations which took place in December.

This state of things touches the interests of the Government of the United States in two ways:

1st. As a buyer and consumer of silver it pays always dearly for it.

2d. As a producer of silver who would naturally employ it largely in her subsidiary coinage, great disorder is thrown into all commercial transactions payable in that metal, and capital finds less employment as these transactions become disordered and diminish.

There is, nevertheless, a very simple remedy to be employed, which, if it does not stop completely this state of things, so hurtful to American interests, would be certain, at least, to palliate its pernicious effects. It is this remedy that I desire clearly to point out.

Having been for thirty years the director of the Belgian mint, I have, as a coiner of money, through the bullion-houses I have established in Brussels, Paris, and London, devoted myself, during this time, to the practical study of the questions relating to the buying and selling of gold and silver in Europe; and in consequence can judge exactly of the position of the European market.

In the notes drawn up by me, and which the Belgian government transmitted to his excellency the United States minister at the beginning of this month, in reply to the questions of the American Silver Commission, I have clearly laid down the principle which has been the true cause that in Europe, for more than three-quarters of a century, gold and silver have remained of the same relative value one towards the other. I have shown, in those notes and in detail, the proof that the cause must be attributed to the law in France, &c., which created, without limit to the coinage, the possibility to coin these two metals in giving them the relative value of 1 to 15½, (222.22 francs the kilogram of fine silver contained in the coins of five francs, and 3,444.44 francs

the kilogram of fine gold contained in the 20-franc gold coins.) I remarked, in those notes, that gold and silver, launched out thus into circulation, constituted a vast and free reservoir, regulating the value of the two metals in the world, and maintaining the equilibrium so exactly that neither the great discoveries of silver in Mexico, nor the immense discoveries of gold in California and Australia, were able to disturb it.

Thus I arrived at this proof: that, to break up this equilibrium and to cause the fluctuations which we have since seen, nothing more was needed than the law limiting the coinage of silver in 1873.

The repeal of this law would suffice to restore calmness to the silver market, and to cure it of the somersaults to which it is subjected.

Until the moment arrives when, by the force of things, more reasonable ideas on this question will be entertained in Europe, the American Government can, by a simple action to be taken by it, and which, without a doubt, will cost it nothing, approach very near to the end desired.

The Government of the United States, who have to coin between this date and 1878 very large sums of money necessary for the resumption of specie payments on the 1st January, 1879, should address itself to the mint at Brussels, and authorize it, under the inspection of the Belgian government, to coin for the account of the American Government, at a price to be determined by it, dollars, or fractions of dollars, in silver, of the weight and fineness laid down by the American laws.

The moment this resolution is arrived at, the fall in the price of silver would be paralyzed, and could not again in Europe pass the limit determined on by the United States.

In point of fact, on every fall in the price of silver, were it only for twenty-four hours even, below the limit fixed, the American Government would have on the spot a monetary establishment, situated in the center of the European market, absorbing silver for it under favorable conditions, whether it is Germany on the one hand that is a seller, or India on the other hand that for the moment is a non-absorber.

In other words, the remedy that I propose consists simply in putting in vigor, partially in Europe, by means of a mint, the principle which, from 1803 to 1873, has maintained the equilibrium between the value of gold and silver.

Silver cannot fall in Europe below 220.55½ the kilogram of fine silver, because the mints buy at that price to coin 5-franc pieces.

Neither can silver fall below the limit determined on by the American Government, because that Government will have placed the means before the public of converting their silver into dollars at the Brussels mint.

It will hardly be necessary to point out the immediate advantages which the American Government will derive from the resolution that it is desired it should take.

1st. The equality thus brought into the state of the silver market will facilitate those transactions payable in that metal, will permit of its employment with less inquietude, and will re-animate the market, to the great advantage of the American mines.

2d. Without any cost to the American Government, the United States mints will be greatly assisted in the heavy coining operations necessary to be performed within the next two years.

3d. The cost of coining is, without doubt, heavier in the United States than in Belgium, where hand-labor and coal are far cheaper, and on this account alone this measure, if taken, would be to the advantage of the American Government.

The Belgian mint coins moneys for other countries than Belgium, and always under the inspection of the agents of the Belgian government.

For example, it has coined for Switzerland, Roumania, Egypt, Italy, Brazil, and Luxembourg, &c.

The Belgian government accords its assistance to foreign governments (generally in a voluntary manner) who desire it, by having the coinage of moneys executed for those governments inspected by the same employés and subjected to the same tests as if the coinage took place for the Belgian moneys.

When the mint coins Belgian 5-franc pieces it charges for all expenses of mintage, direct or indirect, including waste, seven francs fifty centimes for every thousand francs struck off.

It is probable that upon these terms it will be easy to come to an arrangement with the United States Government.

The moneys struck conformably with the laws of the American Government would be certified as being correct by the officials of the Belgian government, they would be delivered on board at Liverpool and insured, and the United States minister at Brussels would pay for them on delivery of the following documents:

1st. The certificate of the officials of the Belgian government as to the quality and quantity of the moneys delivered on board, under a double seal.

2d. The policy of assurance, and the bill of lading, in the name of the American Government.

ADVANTAGES RESULTING FROM THIS PROPOSITION.

1st. Without expense on its part the American Government would augment its production for the resumption of specie payments in 1879.

2d. It would have all known guarantees, the same even as if the silver had been coined in its own mints.

3d. It would steady the value of silver, by paralyzing any excess in the fall in price.

4th. While this fabrication in Europe is going on at the Belgian mint, of dollars or fractions of dollars, the American Government could develop its remittances of trade dollars to India and to China. It would receive in return merchandise which otherwise would find its way to the English markets, and this merchandise would be the natural return, in the course of time, against silver dollars coined in Europe.

To sum up: the coinage of silver dollars in Europe, for the account of the American Government, would become a powerful lever to aid in the displacement of commerce with India, until lately concentrated in England; and which seems to open out thus a new field of enterprise for the United States of America.

BRAZIL.

Minister Partridge to the Secretary of State, replying to interrogatories of the United States Monetary Commission.

UNITED STATES LEGATION,
Rio de Janeiro, November 25, 1876.

SIR: In reply to the interrogatories addressed to representatives of the United States in foreign countries, (inclosed in your circular of the

18th September,) I beg leave to submit the following statement for the information of the United States Monetary Commission:

As the money in circulation in Brazil is now, and certainly for forty years and more has been, exclusively a paper currency of government issue, and, in fact, irredeemable, it is not possible to answer in their order the interrogatories submitted otherwise than by stating this fact as a reason for the inability of procuring information in respect to changes of relative value of gold and silver, amount of coinage, imports of coin, &c.

1. There has no such change taken place in Brazil.

2. As gold and silver coins do not circulate at all in Brazil, (except, perhaps, in a few instances on the frontiers and in transactions with inhabitants of the adjoining countries,) it is not possible to state what fluctuations have taken place in the relative values of the precious metals.

D. Nor are there any statistics accessible from which the amount or value of such metals existing in the forms of jewelry, plate, &c., could be known.

E. The amount of (government issue) paper money afloat and in use and circulation is about $93,000,000, including therein about $13,000,000 of interest-bearing notes which were authorized to be issued in May or June, 1875, to the banks in Rio upon deposit of government securities. So that the amount of government paper notes circulating as currency receivable for all dues, including custom duties, taxes of all kinds, &c., is 149,546.631 milreis, or not far from 150,000 contos, each conto being worth (at 24*d.* exchange to the milreis) about $500 United States gold. At the par of exchange (27*d.* to the milreis) this amount would, if it were to be redeemed in gold, be more than $80,755,180.74.

In addition to this amount there is a bank-note circulation (redeemable in government paper notes) of 33,548.125 milreis, or 33,548 contos 125 milreis, or (at par) $18,105,987.50 United States gold.

This bank-note circulation has been, and is still, gradually reduced by an annual cancellation, at the rate formerly of 5 per cent. per annum, and, latterly, at 2½ per cent. So that of this there will continue to be a small annual reduction.

The small change consists of nickel and copper coins; the former of pieces of 200 and 100 reis, (10 and 5 cents,) and the latter of pieces of 40 and 20 reis, (2 and 1 cent.) The amount of this coinage in use is 3,334½ contos, or about $1,800,000.

So that the whole amount of the currency in circulation in Brazil, consisting of—1. Government notes, (of 1,000, 500, 200, 100, 50, 20, 10, 5, 2, and 1 milreis each, and of 500 reis or ½ a milreis;) 2. Of bank-notes, (in 500, 200, 100, 50, 30, 25 milreis;) and, 3. Of base-metal coins for small change, and not including the 25,000 contos of interest-bearing notes mentioned above, and which do not circulate as currency, is 186,429 contos 256 milreis, or at par in United States gold $100,671,798.24.

Although the government notes alone are, strictly speaking, "legal tender," yet in practice the notes of the banks in Rio, Santos, Pernambuco, and Bahia (chiefly of the Bank of Brazil) are, in those places respectively, received as such tender for all dues, debts, taxes, &c., whatever.

Neither the government notes nor the bank's notes are convertible into coin at the option of the holder. The coins are never seen in circulation. They are sold, as in the United States, at varying rates of premium, and are used chiefly in the River Plate countries, (Montevideo, Argentine Republic, &c.,) where they circulate freely.

The government paper money is usually at a discount of from 1 to 10 per cent., and fluctuating from day to day according to the rate of exchange in England, or according to the demand for exportation of coin (chiefly sovereigns) for the River Plate. These sovereigns are generally worth, in consequence of this demand, about 1 per cent. above the rate of exchange.

It is not possible to state what amount of the precious metals is annually mined in Brazil—from want of proper statistics—nor of the annual export and import of coin or bullion, and for the same reason bullion is rarely or never imported. Whatever gold is brought in is almost entirely in the form of sovereigns, and sometimes of patriot doubloons from the River Plate. These last go chiefly into the southernmost province in Brazil, (Rio Grande do Sul,) adjoining these countries.

There is a government mint established in Rio, but the coinage is only nominal, and for the purpose of assaying and ascertaining the value of such quantities of gold-dust as are from time to time brought there from the mines in the interior. There is no private mint or establishment for coining permitted.

I have applied to the director of the mint for such information as may answer the last four interrogatories, and when his answer is received will transmit it to the Department.

It will be perceived, however, that since the money of circulation in Brazil is not coin, but paper money, which has been, is, and is likely to remain irredeemable, it is not probable that such information could be of much assistance to the labors of the commission.

I have already, in my No. 260, forwarded to the Department such statistics and information as was then attainable in relation to the currency of the empire.

I am, sir, respectfully, your obedient servant,

JAMES R. PARTRIDGE.

Hon. HAMILTON FISH,
Secretary of State, Washington.

BUENOS AYRES.

A.—Minister Osborn to Secretary of State, replying to interrogatories of Monetary Commission.
A 1.—Code of monetary laws of Buenos Ayres.

A.

UNITED STATES LEGATION,
Buenos Ayres, December 15, 1876.

SIR: In reply to circular-letter of date September 18, 1876, from the Department of State, and interrogatories of the United States Monetary Commission inclosed, I have the honor to state that the currency of the Argentine Republic consists, at present, of an inconvertible paper money, concurrent with gold and siver coin.

The monetary unit of the republic is, by law, a gold coin, styled "peso fuerte," (hard dollar,) containing one and a half grams of pure gold, or $1\frac{2}{3}$ of 900 fine.

The above coin is as yet only nominal—it does not exist actually. There is no mint as yet established, but the government is empowered by law to establish a mint to coin the gold, silver, and copper coins.

The gold coins of the principal nations are declared legal tender (by decree of the 6th of June, 1875) in the republic for their respective intrinsic values, as related to the gold unit mentioned above.

Silver is determined by law as a subsidiary coin, limited as a legal tender to $10 in each payment.

The silver dollar, by law, contains 27.110 grams of silver of 900 fine, or grams 24.399 pure silver. Thus, the relation of silver to gold is fixed at 1 to 16.255.

There is no national silver, as yet, coined in the Argentine Republic, but its want is supplied by the Bolivian, Chilian, and Peruvian coins, at official and conventional values, in the different provinces.

The paper money has forced currency by law, is issued by the State Bank of Buenos Ayres, and guaranteed partly by the state or province and partly by the nation. Being inconvertible, its value, of course, is fluctuating. At present, it is quoted at a discount; that is to say, gold is at a premium of 12 to 13 per cent. for paper.

This government contemplates a resumption of specie payment as early as the finances of the country will permit.

The greater proportion of transactions, especially in the province of Buenos Ayres, is effected in paper money, and hence the use of gold is comparatively limited.

In the northwestern provinces of the republic there are valuable mines of gold and silver, but, as yet, they are worked to a comparatively insignificant extent.

I have the honor to inclose a copy of the law in reference to the national money of the country, (marked "A 1,") and express my regret that the time has been so limited since the receipt of your circular-letter, with interrogatories inclosed, that I am not able to answer as fully as the commission may desire or as I could wish.

I am, sir, your obedient servant,

THOS. O. OSBORN.

Hon. HAMILTON FISH,
Secretary of State, Washington.

A 1.

Ley sobre moneda nacional, su tipo y fabricacion.

DEPARTAMENTO DE HACIENDA,
Buenos Aires, Setiembre 29 de 1875.

Por cuanto: El Senado y Camara de Diputados de la Nacion Argentina, reunidos en Congreso, etc., sancionan con fuerza de ley:

TÍTULO I.—*De la moneda nacional.*

ART. 1° La unidad monetaria de la República, será una moneda de oro con peso de un gramo y dos tercios y ley de novecientos milésimos de fino, que se llamará "Peso fuerte."

ART. 2° El peso fuerte se dividirá en diez partes iguales que se llamarán "Décimos," cada décimo se dividirá en diez partes iguales que se llamarán "Centavos" y cada centavo en diez partes denominadas "Milésimos."

ART. 3° Los multiplos de la unidad monetaria, serán:

1° Una moneda de oro con ocho gramos, trescientos treinta y tres milígramos de peso, y ley de novecientos milésimos de fino, que valdrá cinco pesos fuertes y se llamará "Medio colon;"

2° Una moneda de oro con diez y seis gramos, seiscientos sesenta y seis milígramos de peso, y ley de novecientos milésimos de fino, que valdrá diez pesos fuertes y se llamará "Colon;"

3° Una moneda de oro con treinta y tres gramos, trescientos treinta y tres milígramos de peso, y ley de novecientos milésimos de fino, que valdrá veinte pesos fuertes y se llamará "Doble colon."

ART. 4° La tolerancia de peso en mas ó en menos para las monedas de oro, será *de tres milésimos en el "Peso fuerte" y de dos milésimos* en el "Medio colon," "Colon" y "Doble colon."

ART. 5° La tolerancia de ley en mas ó en menos para las monedas de oro, será de *dos milésimos* en el "Peso fuerte," "Medio colon," "Colon" y "Doble colon."

ART. 6° La moneda de vellon, se formará del modo siguiente:

1° Una moneda de plata con veintisiete gramos y ciento diez milígramos de peso, y ley de novecientos milésimos de fino, que valdrá un peso fuerte y se llamará "Peso de plata."

2° Una moneda de plata con doce gramos y quinientos milígramos de peso, y ley de novecientos milésimos de fino y cien milésimos de liga, que valdrá y se llamará "Cincuenta centavos."

3° Una moneda de plata con cinco gramos de peso, y ley de novecientos milésimos de fino, que se llamará y valdrá "Veinte centavos."

4° Una moneda de plata con dos gramos y quinientos milígramos de peso, y ley de novecientos milésimos de fino, que se llamará y valdrá "Diez centavos."

5° Una moneda de plata con un gramo y doscientos cincuenta milígramos, y ley de novecientos milésimos de fino, que se llamará y valdrá "Cinco centavos."

6° Una moneda compuesta de noventa y cinco partes de cobre, cuatro de estaño y una de zinc, con peso de diez gramos, cuyo nombre y valor será "Dos centavos" y otra moneda compuesta de igual liga, con peso de cinco gramos, cuyo nombre y valor serán "Un centavo."

ART. 7° La tolerancia de peso en mas ó en menos para las monedas de plata y de bronce, será de *tres milésimos* en el peso de plata, de *cinco milésimos* en las monedas de cincuenta y de veinte centavos, de *siete milésimos* en las de diez centavos y de *diez milésimos* en las de cinco, dos y un centavo.

ART. 8° La tolerancia de ley en mas ó en menos para las monedas de plata, será de *dos milésimos* en el peso de plata y de *tres milésimos* en las monedas de cincuenta, veinte, diez y cinco centavos.

ART. 9°. En todo pago de mas de veinte pesos fuertes, nadie estará obligado á recibir mas de un colon en moneda de plata, ni mas del valor de un peso fuerte en moneda de bronce.

TÍTULO II.—*De la acuñacion de la moneda.*

CAPÍTULO I.

ART. 10. La liga en las monedas de oro y plata, será de cobre y el diámetro de las monedas de las diversas clases, será el que corresponda á su peso, y el mas conveniente para que sufran por el uso el menor desgaste posible.

ART. 11. Las monedas tendrán en el anverso el escudo de armas de

la Nacion, con la inscripcion "República Argentina" y el año de su acuñacion, y en el reverso la figura emblemática de la Libertad con la palabra "Libertad," y el nombre, valor y ley de ella.

En las monedas cuyo tamaño lo permita, se pondrá en el canto en relieve la leyenda "Igualdad ante la ley."

Las monedas en las que, por su pequeño diámetro no fuera posible poner en el anverso el escudo de armas de la Nacion, llevarán en su reemplazo un gorro fríjio el en centro.

ART. 12. Los troqueles para la fabricacion de las monedas, se harán grabar, dentro ó fuera del pais por el P. E., encargándose de este trabajo á artistas de reconocido mérito, que ofrezcan las garantías que es del caso exijir.

Los troqueles que dejasen de usarse ó quédasen inutilizados por el uso, serán recojidos por el P. E. y destruidos con las formalidades que se crea conveniente establecer.

ART. 13. De cada cantidad de monedas que se entregue por el acuñador, el director de cada una de las casas de moneda, deberá tomar algunas monedas para hacer verificar en su presencia por el ensayador, si su peso y su ley están conformes con lo que se establece por la presente ley.

No se entregará cantidad alguna de moneda para la circulacion, sin haberse hecho antes esta verificacion.

ART. 14. Sin perjuicio de lo dispuesto en el artículo anterior, los directores de las casas de moneda, deberán, de toda acuñacion de oro ó plata que se haga en ellas, tomar al acaso en presencia del ensayador, una moneda de cada mil ó parte de mil.

Las monedas separadas en esta forma, se colocarán en una cubierta que se sellará, poniéndose en ella la fecha de la acuñacion, las cantidades de las cuales fueron estraidas, con las firmas de ambos funcionarios, y se depositarán en el tesoro de la casa de moneda respectiva.

ART. 15. Al fin de cada año, las monedas reservadas en la forma establecida por el artículo precedente, serán enviadas de las casas de moneda al P. E., el cual las someterá, á fin de examinar si su peso y su ley están conformes con lo dispuesto en esta ley, á una junta de cuatro personas competentes, que se reunirán bajo la presidencia del ministro de hacienda.

En caso de que resultase de este exámen, que las monedas no han sido fabricadas en las condiciones establecidas por esta ley, se procederá á levantar un sumario á los empleados encargados de la acuñacion, para el castigo de los que resultasen culpables.

CAPÍTULO II.—*De las casas de moneda.*

ART. 16. La acuñacion de la moneda nacional se hará por cuenta del tesoro de la nacion, en dos casas, que serán establecidas, la una en la ciudad de Buenos Aires y la otra en la de Salta.

Los metales para la acuñacion, serán comprados dentro ó fuera del pais, debiendo fijar el P. E. el precio máximum que deba pagarse por ellos en ambas casas de moneda.

ART. 18. Las casas de moneda recibrán de los particulares, oro en pasta ó en polvo para ser convertido en monedas, siempre que su valor no sea menor de cincuenta pesos fuertes ó que su ley no sea tan baja que los haga inadecuados para la acuñacion. En caso de que el oro contuviese plata y de que esta último metal estuviese en tan pequeña proporcion que no pudiese ser separado con ventaja, no se tendrá en cuenta para el interesado el valor de él.

ART. 19. Despues de haberse efectuado el ensayo del oro recibido para reducirlo á monedas y de conformarse con él el interesado, el director de la casa de moneda respectiva podrá entregarle su equivalente en moneda, antes que se hubiese procedido á la acuñacion.

ART. 20. Las casas de moneda recibrán igualmente oro y plata de los particulares, para hacer su ensayo, para constituirlo en lingotes de metal fino, ó para apartar el uno del otro en caso de encontrarse mesclado, siempre que el peso del oro no sea menor de doscientos gramos y que el de la plata no sea menor de cinco kilógramos.

Las piezas de ambos metales ensayados y los lingotes formados con ellos en las casas de moneda, deberán llevar grabado su peso y su ley, el dia, mes y año en que se haga la operacion, el nombre del ensayador y el número de órden que corresponda al lingote.

ART. 21. Los metales que se reciban de los particulares para acuñar, refinar apartar ó ensayar, serán pesados por el director ó por su reemplazante en caso de ausencia ó de enfermedad, en presencia de los interesados, á quienes deberá darles un recibo en que se hará constar la clase y peso del metal, así como el objeto para el cual hubiere sido depositado.

Cuando el oro ó plata presentado se encuentre en tal estado que sea necesario fundirlo ó separar de él metales de baja ley, sera considerado como su verdadero peso el que resulte una vez que se hayan efectuado estas operaciones, lo que hará constar el director en el recibo que otorgue.

ART. 22. Los metales recibidos en las casas de moneda, para las operaciones autorizadas por esta ley, serán devueltos á los interesados en el órden en que hubierán sido recibidos.

ART. 23. Los lingotes de oro ó plata certificados por las casas de moneda en la forma establecida en el artículo 21, podrán servir al comercio para saldar sus cuentas, siempre que hubiere mútuo convenio, y en este caso serán entregados y recibidos al precio conveniente que tengan estos metales en el mercado en el dia del pago.

El Banco Nacional podrá tener hasta la cuarta parte de su reserva metálica en estos lingotes de oro ó plata certificados.

ART. 24. El poder ejecutivo adquirirá y proporcionará á las casas de moneda, los juegos necesarios de pesos del sistema métrico decimal, de los cuales uno se conservará depositado en el tesoro de cada una de ellas.

ART. 25. La acuñacion con el sello ó cuño nacional del oro y de la plata no amonedados, y la fundicion y acuñacion de las anteriores monedas nacionales, y de las monedas estrangeras de los mismos metales, sean ó no de curso legal, se harán en las casas de moneda sin cargo para los particulares.

El poder ejecutivo una vez establecidas las casas de moneda, fijará las tarifas de lo que debe hacerse pagar en ellas, por las demás operaciones que por la presente ley se les autoriza hacer por cuenta de los particulares.

TÍTULO III.—*De la direccion y administracion de las casas de moneda.*

CAPÍTULO I.—*Disposiciones generales.*

ART. 26. Las casas de moneda establecidas por esta ley, estarán bajo la inmediata dependencia del ministro de hacienda.

ART. 27. El personal de empleados de cada una de las casas de moneda, se compondrá de un director, un acuñador, un ensayador y refinador,

un fundidor y de los demas emplados subalternos, cuyo número y dotacion se fijarán por la ley de presupuesto.

ART. 28. Los directores, así como los demas empleados de las casas de moneda, deberán prestar fianza por la suma y en la forma que se determinará por el reglamento interno de ellas.

CAPÍTULO II.—*De los directores.*

ART. 29. Corresponde á los directores de las casas de moneda:

1° Dirigir y administrar el establecimiento, puesto á su cargo, velando por el cumplimiento de sus deberes por parte de sus empleados.

2° Recibir las sumas que se acordasen para las transacciones á efectuarse en las casas y tenerlas bajo su guarda.

3° Recibir y guardar con la seguridad debida, los lingotes que se entregaren á las casas para las diversas operaciones, con escepcion de los que se entreguen á los empleados para operar sobre ellos.

4° Exigir de sus empleados recibos por los metales que se les entreguen para el trabajo, haciendo constar su condicion y peso.

5° Dar á los particulares certificados de depósito por los metales que entreguen para ser trabajados en la casa.

6° Pasar cada tres meses al poder ejecutivo una cuenta de las transacciones efectuadas en la casa respectiva.

7° Tomar el número de obreros necesarios para los trabajos extraordinarios de cada casa, con autorizacion del P. E., pudiendo despedirlos en caso de faltas ó por incompetencia, y reemplazarlos por otros.

8° Presentar al P. E. una memoria anual de las operaciones efectuadas en las casas, indicando las mejoras que pudieran introducirse en los sistemas seguidos en ellas para su trabajo.

9° Llenar las demas funciones que se les asignen por el reglamento interno de las casas, que dictará el P. E.

ART. 30. Los directores son responsables ante el P. E. por las sumas que se les confiaren para los trabajos y transaciones de las casas y por la regularidad, seguridad y economía en el servicio de ellas.

ART. 31. El P. E. mandará establecer en las casas de moneda, el sistema de contabilidad mas adecuado á sus operaciones, debiendo cada oficina llevar una cuenta especial de las que le son peculiares, y el director ademas, una cuenta general que las comprenda todas, adoptándose á este respecto, en lo que sea posible, los principios establecidos en la ley de la contabilidad.

CAPÍTULO III.—*Del ensayador y demas empleados de cada casa de moneda.*

ART. 32. Corresponde al ensayador:

1° Reciber del director los metales para ser ensayados, ya seam los destinados á ser trabajados en la casa ó llevados con el solo objeto de saber su ley.

2° Hacer un informe escrito, sobre el resultado de la operacion efectuada por él. El ensayador es responsable de la fiel ejecucion de las operaciones del ensayo y de la conformidad con ellas del certificado que hubiese otorgado.

ART. 33. El fundidor deberá:

1° Hacer todas las operaciones que se le encomienden por el director, para fundir y separar metales, para formar lingotes para la acuñacion con la liga que establece la ley.

2° Conservar anotaciones en un libro de los trabajos que afectúe, estableciendo el peso de los metales recibidos, su clase y el peso de los lingotes formados por él.

El fundidor es responsable por los metales que reciba, hasta su entrega al director, así como por la conformidad de sus trabajos con las prescripciones de la presente ley.

ART. 34. El acuñador deberá hacer las operaciones que le correspondan, en conformidad con la ley, siendo responsable por los metales que reciba para reducir á monedas.

TÍTULO IV.—*Disposiciones transitorias.*

ART. 35. El P. E. procederá á la adquisicion de las máquinas é instrumentos, reconocidos como mas perfectos y convenientes para la acuñacion de la moneda, en las casas de moneda establecidas por esta ley.

ART. 36. Así que se encuentren en estado de empezar sus trabajos las casas de moneda, se procederá á recoger las monedas de oro, plata y cobre existentes, de las acuñadas en la nacion, y se efectuará su fundicion y reacuñacion.

ART. 37. Las monedas estrangeras que existieren en las oficinas públicas, así como las que tuviese el Banco Nacional formando parte de su reserva metálica, serán enviadas á las casas de monedas para ser fundidas y convertidas en monedas del cuño nacional.

ART. 38. El P. E. determinará las cantidades de monedas de vellon de las diversas clases que deban acuñarse, no debiendo esceder el número de ellas, en las de plata del valor de dos pesos fuertes, y en las de cobre de cuarenta centavos de peso fuerte por habitante de la nacion.

ART. 39. El P. E. fijará el valor de todas las monedas estrangeras que tengan circulacion en la República, con arreglo á la unidad monetaria creada por esta ley, y teniendo únicamente en cuenta la cantidad de oro y plata fina que contengan dichas monedas.

ART. 40. Desde que se ponga en circulacion la moneda nacional, solo podrán recibirse en pago las monedas de plata estrangeras en la proporcion establicida en esta ley para las monedas de vellon.

ART. 41. Autorízase al P. E. para hacer los gastos que demande la ejecucion de la presente ley.

ART. 42. Comuníquese al poder ejecutivo.

Dada en la sala de sesiones del Congreso Argentino, en Buenos Aires, á los ventitres dias de mes de Setiembre de mil ochocientos setenta y cinco.

MARIANO ACOSTA.
J. BENJAMIN DE LA VEGA.

CÁRLOS M. SARAVIA,
Secretario del Senado.
MIGUEL SORONDO,
Secretario de la Camara de DD.

Por tanto: Téngase por ley de la nacion, cúmplase, comuníquese, publíquese é insértese en el Registro Nacional.

AVELLANÉDA.

O. LEGUIZAMON.

DEPARTAMENTO DE HACIENDA DE LA REPÚBLICA ARGENTINA,
Buenos Aires, Octubre 30 1875.

Exmo. Señor Ministro de Hacienda de la Nacion Dr. D. LUCAS GONZALEZ.

Cumpliendo el encargo con que V. E. nos honró, hemos considerado detenidamente el medio mas conveniente y práctico de dar inmediato efecto á la ley de monedad sancionada por el H. Congreso, y vistos los

términos precisos y perentorios de dicha ley y el carácter ineludible de sus disposiciones, no hemos trepidado en aconsejar á V. E. proceda á declarar de curso legal en la república las monedas de oro y plata que á continuacion se espresan, por los valores que se les asignan, que son los que estrictamente le corresponde, con arreglo á la unidad establecida por la citada ley, á saber:

MONEDAS DE ORO.

La moneda peruana de 20 soles, con peso de 32.258 gramos, ley 900 mil	$19.355
La moneda brasilera de 20 mil reis de peso 17.926 gramos y ley de 916⅔ milésimos	10.955
El águila de E. Unidos de peso de 16.717 gramos y ley de 900 mil	10.030
El condor chileno de peso de 15.253 gramos y ley de 900 mil	9.150
El doblon español de peso de 8.336 gramos y ley de 900 mil	5.000
El soberano inglés de peso de 7.981 gramos y ley de 916⅔ mil	4.880
La moneda francesa de 20 francos de peso 6.451 gramos y ley de 900 mil	3.870

MONEDAS DE PLATA.

El peso chileno de peso de 25 gramos y ley de 900 mil	$0.920
El sol peruano de peso de 25 gramos y ley de 900 mil	0.920
El peso boliviano (conocido por de 500 granos) de peso de 25 gramos y ley de 900 mil	0.920
El peso boliviano (conocido por 400 granos) de peso de 20 gramos y ley de 900 mil	0.740

Los multiplos y submultiplos de todas las precedentes monedas, se arreglarán por su valor relativo.

Notará V. E. que en la designacion del valor de las monedas no se ha considerado la onza de oro.

La comision cree de su deber hacer presente á V. E., que no ha podido uniformar sus opiniones respecto del valor de esta moneda, que segun aquel que se le determine, puede traer una grave perturbacion económica.

Dos de sus miembros, Uriburu y Agote, tratando de obviar todos los inconvenientes que pueden surjir de la fijacion del valor de la onza que variá segun la nacion á que pertenece, y que tiende gradualmente á su desaparicion por desecharla actualmente las mismas que la adoptáron, opinan por la eliminacion, reservando al comercio la determinacion de su valor en las transaciones ordinarias.

El señor Riestra, por su parte, no acepta este temperamento fundándose en que la onza de oro es actualmente moneda declarada de curso legal, y esa moneda existe en mas ó menos cantidad en las cajas públicas y particulares del pais, recibida con arreglo á la ley que le dió curso, por el valor de $fts. 16 y el cual con arreglo á la nueva unidad monetaria, queda reducido á $f. 15.750.

Conocidas las opiniones de los miembros que forman la comision, queda reservado á V. E. la solucion de la cuestion que los ha dividido.

El gobierno podrá en adelante declarar de curso legal cualquiera otra moneda estrangera de oro ó plata, de buena ley, que tuviere circulacion en la República y se creyese conveniente admitir.

La comision cree, por otra parte, de su deber encarecer al gobierno la absoluta necesidad de proscribir de la circulacion en la República toda moneda defectuosa ó de baja ley, declarando desde luego ilegal el curso

de la monedas bolivianas llamadas *melgarejo* y *cuatros*, pero facilitando al mismo tiempo su conversion á moneda legal por su valor intrínseco, por medio de los sucursales del Banco Nacional, administraciones de rentas ú otros establecimientos públicos ó particulares.

Solo nos resta indicar que la urgencia del decreto que el gobierno acuerde, debe empezar á tener efecto desde el dia en que él fuese promulgado en cada localidad, quedando desde entónces sin efecto toda disposicion anterior en contrario.

Saludamos á V. E. con toda consideracion.

N. DE LA RIESTRA.
FRANCISCO URIBURU.
P. AGOTE.

DEPARTAMENTO DE HACIENDA DE LA REPÚBLICA ARGENTINA,
Buenos Aires, Junio 6 de 1876.

Siendo urgente normalizar la situacion extraordinaria en que se encuentran las operaciones monetarias, tanto en esta provincia como en las demas de la República y no pudiendo prescindirse, para el efecto, del inmediato cumplimiento de la ley de monedas, fecha 29 de Setiembre ppdo.; traidos á consideracion los informes y antecedentes sobre la materia;

El P. E., en cumplimiento de las prescripciones contenidas en el artículo 39 de la referida ley, ha acordado y decreta:

ART. 1° Declárase de curso legal en la República las monedas de oro y plata que á continuacion se espresa, por los valores que respectivamente se les asigna, á saber:

MONEDAS DE ORO.

La pieza peruana de 20 soles, con peso de 32.258 gramos y ley de 900 milésimos	$fts. 19.355
La onza hispano-americana de peso 27 gramos y ley de 875 miles	15.750
La pieza brasilera de 20 mil reis de peso 17.926 gramos y ley dey 916.⅔ milésimos	10.955
El águila de los E. Unidos de peso de 16.717 gramos y ley de 900 miles	10.030
El condor chileno de peso 15.253 gramos y ley de 900 miles	9.150
El doblon español de peso 8.336 gramos y ley de 700 miles	5.000
El soberano inglés de peso de 7.981 gramos y ley de 916.⅔ milésimos	4.880
La pieza francesa de 20 francos con peso de 6.451 gramos y ley de 900 miles	3.870

MONEDAS DE PLATA.

El peso chileno de peso de 25 gramos y ley de 900 miles	0.920
El sol peruano de peso de 25 gramos y ley de 900 miles	0.920
El peso boliviano (conocido por de 500 granos) de peso de 25 gramos y ley de 900 miles	0.920
El peso boliviano (conocido por de 400 granos) de peso de 25 gramos y ley de 900 miles	0.740
Los multiplos y submultiplos de las precedentes monedas, por su valor relativo.	

ART. 2° El gobierno proveerá en oportunidad lo que fuese conveniente á fin de convertir á moneda legal las piezas bolivianas llamadas

melgarejos y *cuatros*, y toda otra moneda defectuosa ó de baja ley que quedan proscriptas de la circulacion legal en la República.

ART. 3° Este decreto deberá tener vigencia desde la fecha de su promulgacion en cada localidad, quedando desde entónces sin efecto toda disposicion anterior en contrario.

ART. 4° Comuníquese para su cumplimiento á quienes corresponda, publíquese con sus antecedentes é insértese en el R. N.

AVELLANEDA.

N. DE LA RIESTRA.

DENMARK.

A.—Minister Cramer to Secretary of State.
A 1.—Replies of minister to interrogatories of commission.
B.—Replies of director of Danish mint to interrogatories of commission.
C 1, 2, 3, 4.—Minister Cramer to Secretary of State, with inclosures concerning monetary and mint laws of Denmark.

A.

LEGATION OF THE UNITED STATES,
Copenhagen, November 8, 1876.

SIR: Referring to the Department's circular of the 18th of September last, in relation to the appointment by Congress of commission to inquire into the change that may have taken place in the relative value of gold and silver, &c., and requesting information relating to such change in this country in the form of answers to interrogatories, I have now the honor to transmit to you herewith inclosed—

1. Answers to interrogatories addressed to the representative of the United States to Denmark, marked A.

2. Answers to interrogatories addressed to the director of the royal Danish mint, marked B.

3. A printed copy of the Danish coinage law, marked C.

4. Three printed copies of annual report of the director of the royal Danish mint; one, respectively, for 1873–'74, 1874–'75, and 1875–'76, marked, respectively, D*a*, D*b*, and D*c*.

It may be proper for me to state here that I endeavored to procure the desired information, not only as soon as possible, but as trustworthy as possible. It has been obtained mostly through the ministry of finance.

I have the honor to be, sir, respectfully, your obedient servant,

M. J. CRAMER.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

A 1.

Answers to interrogatories addressed to the representative of the United States at Denmark.

Answer to 1, 2. No such change has taken place. Before the enactment of the coinage-law of May 23, 1873, of which a printed copy is herewith inclosed, silver constituted the standard of value in Denmark; on and after the enactment of that law, gold became the standard of value, with silver for subsidiary coins. All coins of the old monetary system having been withdrawn and redeemed by the state with gold coins, or bank-notes founded on gold, at the fixed rate of 1 gold to

15.675 silver, and coining of money of the old monetary system having been prohibited by law, there has consequently no change or fluctuation taken place in the relative value of gold and silver. (See translation of the substance of the law above referred to, as well as of the monetary convention concluded thereunder, in "Foreign Relations of the United States for 1873," part I, pages 213–217.)

Answer to "A." As all silver has been sold (mostly to England,) on and for government account, no regular value can be stated between gold and silver.

Answer to "B." Gold constitutes the standard of value. In gold coin can debts of the largest sums be discharged. There is no objection to the payment of debts in silver coins; but, as such coins are only used as "change," and are, therefore, limited as a circulating medium, they are not used in payment of debts of large sums.

Answer to "C." There exist in Denmark, in the form of gold coin and bullion, fifty-one million crowns, (or about $13,390,000,) and, in the form of silver coins, 17,729,000 crowns, (or about $4,653,800.)

Answer to "D." It is impossible to estimate the quantity of gold and silver in the form of plate, jewelry, &c., susceptible of being converted into coin.

Answer to "E." The National Bank of Copenhagen holds the exclusive privilege of issuing bank-notes and paper money. Its issue of such paper money amounts at present to 68,500,000 crowns, (or about $17,982,000.) The notes of the national bank are legal tender to any amount, and are convertible into coin, at par, at the option of the holder. They are also legal tender for all classes.

Answer to "F." There are no gold or silver mines in Denmark at present, nor have there ever been.

Answers to 3, 4. These questions are answered, as far as it is possible to answer them, under question No. 1.

Answer to 5. It was enacted by the law of May 23, 1873, that the old silver coins should continue to circulate, side by side, with the gold and silver coins of the new monetary system, until the 1st of October, 1876. The money (paper, gold, silver, and baser metal) of the old system was gradually withdrawn during that interval, until at the last-mentioned date none thereof was in existence. This gradual passing over from the old to the new monetary system produced no perceptible change in the fixed value of gold and silver, nor exerted a perceptible influence of a detrimental character upon the trade, commerce, and productive industries of the country.

Answer to 6. 1. Gold and silver coins are coined for circulation by the royal mint at government expense. 2. Gold is coined by the royal mint for a fee of one-fourth of 1 per cent., without any limits as to the amount. 3. The government monopolizes the coinage. 4. Silver is coined only as subsidiary money, and for government account. 5. Gold and silver coins of other countries are not used as legal tender, except those of Sweden and Norway; and this in virtue of a convention existing between Denmark and these countries, in accordance with which all three kingdoms have the same monetary system, and the coins of the one are legal tender of the other two.

Answer to 7. The Danish government has no data by which the amount of annual exports and imports of coin and bullion may be determined.

Answer to 8. As there never have been, nor are now, any gold or silver mines in this country, there are consequently no laws in existence relating thereto.

Answer to 9. Herewith are inclosed printed annual reports of the director of the royal mint, for 1873–'76.

B.

Answers to interrogatories addressed to the director of the mint of Denmark.

No. 1. Having no mines, there are no mining-laws. A copy of the coinage-law is herewith inclosed. (See translation of the substance thereof in "Foreign Relations of the United States for 1873;" part I, pages 213, 217.)

No. 2. Having no data in relation to it, the desired information cannot be given.

No. 3. None whatever.

No. 4. No specific time can be fixed. The coins are delivered with as little delay as possible; but as the national bank purchases gold in bullion, as well as foreign coins, at the rate fixed by the mint, no other parties but the said bank sends gold to the mint to be coined.

No. 5. None, except the provisions made in the coinage-law of May 23, 1873, above referred to.

No. 6. Herewith follow three printed copies of annual mint report for 1873–'76.

C 1.

LEGATION OF THE UNITED STATES,
Copenhagen, October 23, 1872. (Received November 7.)

SIR: I have the honor to report that the question concerning the introduction into the three Scandinavian kingdoms, Denmark, Sweden, and Norway, of a common system of coinage, based upon a gold standard, has for months been discussed by the Scandinavian press as well as by writers on political economy. This discussion was occasioned no doubt by the adoption last year by the German Parliament of a new gold standard for the German Empire, and it has ever since been felt here that a corresponding change in the money system of the Scandinavian North had become an absolute necessity.

As a first step toward the attainment of this object, the King of Denmark appointed, on the first of last June, a commission to take this subject, as far as Denmark was concerned, into consideration, and to report thereon. It so happened that the Scandinavian congress of political or national economy, which held its sessions in this city during the month of July last, in connection with the northern exposition of industry and art, among other things unanimously adopted a resolution recommending, first, the introduction into the three Scandinavian kingdoms of a uniform money system, based upon a common gold standard; and, second, the appointment of a joint commission to consider and report upon this subject. With a laudable dispatch, the respective governments of the three Scandinavian kingdoms acted upon this suggestion, and appointed such a joint commission, consisting of three members from each kingdom. On the 26th of last August the said joint commission met in this city and commenced their work. On the 20th of the following September they terminated the same, and embodied the results of their deliberations in a somewhat lengthy report, which has recently been published in the Danish language in one of the city papers. I inclose herewith a translation of the substance of it.

This report has now been laid before the governments of Denmark, Sweden, and Norway. The King of Denmark has already caused his government to take steps which look toward the conclusion of a convention with the governments of Sweden and Norway in relation to the adoption of and carrying out, conjointly, the stipulations of the said

report. The fact that the joint commission adopted it unanimously furnishes a reason for the hope that Sweden and Norway will join Denmark in adopting and carrying it into practice.

As another evidence that the King of Denmark is in earnest about this matter, it may be mentioned that he has recently granted permission to the National Bank of Copenhagen to exchange its silver bullion, so far as it consists in ingots, for gold bullion of a similar character, being the reserve of uncoined precious metal required by law to be kept on hand as a security for its issue of notes.

It will be seen from the said report that it does not propose to adopt any one of the money standards already in existence in Europe, but an entirely new one; thus, like the new money system adopted last year by the German Parliament, putting a new obstacle in the way of attaining to a common international money system, an object the attainment of which is so much to be desired.

I have, &c.,

M. J. CRAMER.

C 2.

Translation of the substance of the report of the Scandinavian joint commission appointed to consider the feasibility of introducing into the three Scandinavian kingdoms a new money system.

1. The three Scandinavian kingdoms shall adopt gold as the basis of a common money system, with the use of silver and other metals for smaller coins.

2. The principal common coin shall be called gold crown, and another of twice its value, double crown. Of a kilogram of fine gold shall be coined 248 pieces of gold crowns, or 124 pieces of double crowns. The common unit for calculation shall be a crown dollar, which shall be one-tenth of a gold crown. A crown dollar shall be divided into or shall contain 100 öre.*

3. Gold coins shall be coined of an alloy containing 90 parts in weight of fine gold, and 10 parts in weight of copper. A gold crown shall weigh 4.4803 grams, and a double crown 8.9606 grams. The diameter of a gold crown shall be 19 millimeters, and that of a double crown 24 millimeters.

4. Smaller coins shall be coined partly of silver and partly of bronze; the latter to consist of 95 parts of copper, 4 parts of tin, and 1 part of zinc.

5. Of silver coins may be coined the following-named pieces, each of which shall contain the size, weight, and fineness as fixed in the following statement:

A silver coin representing the value of—	Diameter in millimeters.	Gross weight in grams.	Grams of fine gold.
(*a.*) 4 crown dollars shall contain	39	30	24
(*b.*) 2 crown dollars shall contain	31	15	12
(*c.*) 1 crown dollar shall contain	25	7.5	6
(*d.*) 50 öre shall contain	22	5	3
(*e.*) 40 öre shall contain	20	4	2.4
(*f.*) 25 öre shall contain	18	3	1.5
(*g.*) 10 öre shall contain	16	2	0.6

* "Öre" is an old northern designation for a small coin still in use in some parts of Scandinavia, and its value is about one-fourth of one cent.—M. J. C.

6. Of bronze coins may be coined the following-named pieces, each of which shall contain the size and weight as fixed in the following statement:

A bronze coin representing the value of—	Diameter in millimeters.	Of a kilogram of bronze shall be coined the following number of pieces.
(*a.*) 5 öre shall contain	27	125
(*b.*) 2 öre shall contain	21	250
(*c.*) 1 öre shall contain	17	500

7. In so far as perfect exactness as to weight and fineness in the coin pieces of each denomination cannot be obtained, the deviation from the fixed standard, either above or below it, shall not exceed the following quantity:

Denomination.	In relation to—		
	Weight or when adjusted.		Fineness of the weight of the coin piece.
	By the piece.	By kilograms.	
For gold coins	0.0025		0.002
A 4-crown dollar piece	0.003		
A 2-crown dollar piece	0.004		
A 1-crown dollar piece	0.005		
A 50-öre piece		0.005	0.003
A 40-öre piece			
A 25-öre piece		0.010	
A 10-öre piece		0.015	

The same standard gold and standard silver shall form the basis for assays at the mint of each of the three kingdoms.

8. All coins shall be coined with a raised border. Gold and silver coins, excepting twenty-five and ten öre pieces, shall have a dented or rifled circumference. The superscription upon a gold crown shall show that it is a gold crown; that of a double crown that it is a double crown; and each shall also show the number of crown dollars it contains, and in which kingdom it was coined.

9. All coins coined in accordance with the above regulations, in the mints of the three kingdoms, shall be lawful money, and shall be taken at their stipulated value in payment of debts between man and man, and of taxes and duties due to the governments of the three kingdoms. Yet none shall be obliged to receive in any one payment a higher number than twenty crown dollars, in one, two, and four crown dollar pieces, or more than five crown dollars in smaller silver coins, or more than one crown dollar in bronze coins.

10. When gold coins have, through use, lost one-half per cent. of the weight specified in article 3, they shall cease to be lawful money between man and man, but shall be taken at their full value by the treasury of each kingdom. Smaller coins, whose superscriptions have become illegible by use, shall also be taken at their full value by such treasury, if it can be determined in what kingdom they were coined.

The remainder of the report contains a few stipulations to the effect that, in case it shall be adopted by the three kingdoms, and the governments of these kingdoms shall pass any laws in relation to the further regulation of this new money system, each government having passed such laws shall communicate them to the governments of the other two kingdoms, &c., &c.

C 3.

LEGATION OF THE UNITED STATES,
Copenhagen, December 28, 1872. (Received January 16, 1873.)

SIR: I have the honor to inform you that, on the 18th instant, at Stockholm, a convention was concluded and signed by the duly-empowered plenipotentiaries of the three Scandinavian kingdoms, Sweden, Norway, and Denmark, in regard to the adoption and introduction of a common money system based upon a common gold standard. The full text of this convention was published yesterday in the semi-official paper of this city. The convention itself has not yet been ratified, but it is supposed that it will be done very soon.

I herewith inclose a translation of the substance of the said convention.

I have, &c.,

M. J. CRAMER.

C 4.

Substance of a convention concluded and signed at Stockholm on the 18th of December, 1872, between the duly-empowered plenipotentiaries of the kingdoms of Sweden, Norway, and Denmark in regard to the introduction of a common system of coinage into the three northern kingdoms.

ARTICLE I.

The three northern kingdoms adopt gold as the basis of a common system of coinage, with the use of silver and metal of a less value for smaller coin.

ARTICLE II.

For the three kingdoms there shall be two main coins: the first shall be coined in such a manner that 248 pieces shall contain 1 kilogram of fine gold; the second, so that 124 pieces shall contain 1 kilogram of fine gold. The tenth part of the first main coin, or the twentieth part of the last named, shall be the common unit of calculation, and shall be called a crown. A crown is divided into 100 öre.

ARTICLE III.

Gold coin shall be coined of an alloy consisting in weight, respectively, of 90 parts of fine gold and 10 parts of copper.

The gold coin containing 10 crowns shall weigh 4.4803 grams, and that containing 20 crowns shall weigh 8.9606 grams.

The diameter of a 10-crown piece shall be 18 millimeters, and that of a 20-crown piece 23 millimeters.

ARTICLE IV.

Smaller coins shall be coined partly of silver, with an alloy of copper as indicated in Article V; partly of bronze, containing 95 parts of copper, 4 parts of tin, and 1 part of zinc.

ARTICLE V.

Of silver coins may be coined the following-named pieces, of the size, weight, and fineness indicated as follows:

	Diameter.	Net weight.	Contents of fine silver.
	Millimeters.	*Grams.*	*Grams.*
(*a.*) 1 piece representing the value of 2 crowns	31	15.00	12.000
(*b.*) 1 piece representing the value of 1 crown	25	7.50	6.000
(*c.*) 1 piece representing the value of 50 öre	22	5.00	3.000
(*d.*) 1 piece representing the value of 40 öre	20	4.00	2.400
(*e.*) 1 piece representing the value of 25 öre	17	2.42	1.452
(*f.*) 1 piece representing the value of 10 öre	15	1.45	0.580

ARTICLE VI.

Of bronze coins may be coined the following pieces, which shall contain the size and weight indicated herewith:

	Diameter.	Of one kilogram bronze shall be coined—
	Millimeters.	*Pieces.*
(*a.*) 1 piece representing the value of 5 öre	27	125
(*b.*) 1 piece representing the value of 2 öre	21	250
(*c.*) 1 piece representing the value of 1 öre	16	500

ARTICLE VII.

In so far as a perfect exactness as to weight and fineness cannot be obtained for the single coin pieces, the variation from it, either above or below the proper weight and fineness, shall not be more nor less than is indicated herewith:

	In regard to weight.		In regard to fineness.
	Adjusting by the piece.	Adjusting by the kilogram.	Net weight of each coin piece.
For 20 crowns	0.0015		0.0015 fine gold.
For 10 crowns	0.0020		
For 2 crowns	0.0030		0.0030 fine silver.
For 1 crown	0.0050		
For 50 öre		0.005	
For 40 öre			
For 25 öre		0.010	
For 10 öre		0.15	

In coining of gold, care is to be taken that the deviation in weight for each denomination with or at 10 kilograms of coinage gold, is not to transcend 5 grams. The same normal rules for determining pure gold and pure silver shall form a common basis for assaying in the three kingdoms.

ARTICLE VIII.

All coins are to be coined with raised border; gold coins and silver coins, excepting 25 ören and 10 ören, are to be coined with a rifled ring each. Twenty-five ören and 10 ören with a smooth ring. The superscription shall plainly indicate the number of crowns or örens which the coins may respectively contain or represent. Likewise shall each coin show in which kingdom and in which year it was coined. Each kingdom determines the nature of the superscription and of the coinage of each denomination which it may coin for its own account.

ARTICLE IX.

All coins coined in accordance with the foregoing rules shall, under the limitations of Article X, be lawful currency, according to their respective value, in all three kingdoms, unless they should have suffered a violent or unlawful damage.

ARTICLE X.

Of smaller coins none shall be obliged to receive at one payment a higher rate than twenty crowns in one and two crown pieces, five crowns in smaller silver coins, and one crown in bronze coins. Gold coins shall cease to be lawful currency, as regards the treasury, when by their wear and tear 2 per cent. of their respective weight have been lost; and as regards the public, when ½ per cent. of their respective weight has been lost. Smaller coins shall cease to be lawful currency, as regards the treasury, when they are, respectively, so worn out that it cannot be determined with certainty in which kingdom it was coined; and as regards the public, when the superscription is illegible. Coins which, as regards anybody, are no longer a lawful currency, shall not again be put into circulation by the treasury. The same holds good with regard to silver coins which are 4 per cent. or more below their proper weight.

* * * * * * *

The remaining articles contain rules as to the *modus operandi* of each kingdom in introducing the new money system. This convention is to be ratified and the ratifications exchanged at Stockholm as soon as it can conveniently be done. Gold coin and the new unit of calculation shall be introduced into the three kingdoms not later than the 1st of January, 1875.

FRANCE.

A.—Minister Washburne to Secretary of State, replying to interrogatories of commission.

B.—Coinage of France from January 1 to November 30, 1876.

C.—Movement of the precious metals in France during the first eleven months of 1876.

D.—Weight of gold and silver stamped at the bureau of guaranty for use in the fine arts.

A.

LEGATION OF THE UNITED STATES,
Paris, March 27, 1876.

SIR: The rapid and growing depreciation of silver which had for some time attracted the attention of the principal economists and financial men of Europe, is now becoming a matter of serious uneasiness to the governments that have the largest proportion of silver currency in the world—I mean France, Germany, and England; the last-named for her Indian empire.

The question is of such vital importance, it threatens to assume such vast proportions, and is, in so many respects, connected with the measures at present under consideration in our country regarding the resumption of specie payments, that I have thought it would not be uninteresting to you to know how it is presented in Europe, and what solutions the most competent French economists propose for a crisis whose consequences might prove disastrous for the whole commercial world.

The European states may be divided into two classes with regard to metallic currency: those which have adopted gold alone for their monetary standard, and those which use both a gold and a silver standard. The first are England, Germany—the latter since the 1st of January only—and Holland. It may be noticed, however, that while England recognizes no other legal standard than gold, her immense Indian empire has no other currency than silver. The second class comprises France, Italy, Belgium, Switzerland, and Greece. To these we should, temporarily at least, add Germany; for though the German Empire has begun to withdraw its various silver coins, and has decided by law that on and after the 1st of January of the present year the gold mark shall be the only legal tender, it has, nevertheless, authorized for an indeterminate lapse of time the circulation of thalers.

Russia and Austria, which are both doomed to paper currency for a long time to come, need not be taken into consideration.

The bi-metallic or double standard system can evidently subsist but by the assumption of an unvariable ratio between the value of gold and that of silver. In France that ratio was determined by a law of the year XI, (1803), which is the basis of the French monetary system, and which establishes for the relative value of gold and silver the ratio of 1 to 15½. This means that, to have in silver the equivalent of any given weight of gold, we must multiply that weight by 15½.

The French ratio was successively adopted by the six above-mentioned states, and during a long time the value thus settled underwent very slight variations. When gold was discovered in California, it was believed in Europe that this metal would suffer a certain depreciation, and various measures were resorted to in order to avoid the impending danger. Holland even went so far as to declare that gold should no more be a legal tender; but after a short perturbation, the relative value of the two metals was brought back to its former state, and the ratio of 15½ to 1 remained unchanged.

It was not until 1867 that this ratio began to experience variations detrimental to silver and favorable to gold. Eighteen hundred and sixty-seven was the year of the Universal Exhibition at Paris. On that occasion an international monetary conference was held here, the great object of which was the investigation of the means of establishing monetary unity. The conference, in which nearly all the civilized countries, the United States among others, were represented, and to which men

eminently skilled in financial matters had been called, gave a large majority in favor of the adoption of gold as the sole monetary standard. From that moment the value of silver began to decline. At first the depreciation was very slow and hardly perceptible; but by degrees it went on accelerating.

In 1872 it was as yet but 2 per cent.; in 1873 it had become 1 per cent. more. In the course of the latter year the French government, in hopes of preventing, or at least restraining, the further depreciation of silver, determined to restrict the coining of that metal. This measure, which was contrary to the spirit, if not to the letter, of the law of the year XI—for till then any denizen had a right to send to the mint for coining as much metal as he chose—produced an effect quite the reverse of what was expected. The value of silver continued declining, and in 1874 its depreciation with regard to gold was 4 per cent. At that time other events took place, which seem also to have essentially contributed to the depreciation of silver.

Germany, whose metallic currency had, up to 1870, been almost entirely limited to silver, finding herself, after the conclusion of peace, possessed of an immense capital, resolved to unify her monetary system and adopt gold as the sole standard. She therefore ordered that none of the foreign coins, of which a great number were in free circulation throughout the empire, should thereafter be a legal tender, called in the florins and other silver coins of Southern Germany and of the Hanseatic Cities, decreed that on and after the 1st of January, 1876, the sole legal tender should be the gold mark, and coined gold pieces of ten and twenty marks to the amount of twelve hundred millions. In order to complete this reformation, it would have been necessary to call in all the thalers then in circulation; but as their total amount is equal to seven hundred and forty millions of francs, and as the sudden withdrawal of so great a mass of metal presents difficulties of all kinds, Germany has decided to accomplish it gradually, and has, therefore, retained the thalers as a legal tender, assimilating them, however, to gold pieces of three marks, and adopting for their value, with regard to gold, the ratio of 1 to 15½ accepted by the bi-metallic states, so that every thaler, now worth three marks, weighs fifteen and a half times as much as the three-mark gold piece.

Therefore, though adopting as a principle the mono-metallic system, and declaring the thaler to be a provisional currency, which is retained but not allowed to be increased, Germany belongs *de facto* to the class of bi-metallic states, since the thaler or silver mark and the gold mark are, in that country, exchangeable at par. The consequences of such a state of things were not slow to appear. As the value of silver abroad was everywhere declining, while it suffered no depreciation at home, the German bankers exported German gold to meet their payments in foreign countries, and kept the German silver for their liabilities at home, so that the government was obliged to buy and import its own gold with which it paid for the silver called in, and then to sell that same silver at a loss.

Such being the situation, all the bi-metallic states had reason to fear that Germany might send to their mints the silver she withdrew from her own circulation, and which she could dispose of only at a heavy loss in London, the great mart for the precious metals of the world.

In fact, at that time (1874) silver, which was then and still is a legal tender in France, Belgium, Italy, and Switzerland, could be coined to any amount in those countries; there was no law to prevent a French, a Belgian, an Italian, or a Swiss citizen from carrying to the mint all

the silver which he could obtain; the coining of it could in no case be denied him. It would, therefore, have been an easy matter for Germany to have her florins and thalers, which could not be advantageously disposed of in England or in the United States, converted into francs and lires, circulating at a par with gold. France hoped to avert this danger—if there were any danger in the case—by promoting the formation of a monetary league, the object of which was to restrict the liberty of coining. This is what is known as the Latin Monetary Union. It was constituted in 1874 by a convention signed at Paris. These countries bound themselves not to produce during the year 1874 more than one hundred and twenty millions of francs of silver coinage. Such an agreement was in reality nothing else than a step toward the adoption of gold as the sole standard, since this measure of precaution was against silver alone, while leaving the coinage of gold completely free.

The results of this measure, however, did not correspond to what its authors expected. The value of silver still declined, and at the end of 1874 it was 5 per cent. below par. In 1875, a second conference of the Latin union fixed the limit of the coinage of silver in the four states at one hundred and fifty million francs for that year; nevertheless, the decline continued. It had reached 8 per cent. when the conference held its third meeting, at the beginning of the present year. No other remedy was sought for than that which had been attempted so far, and the amount of silver coinage was still further reduced for 1876. France was allowed to make five-franc pieces only to the amount of fifty-four millions instead of seventy-five millions, which had been authorized in 1875; Italy, thirty-six millions instead of fifty; Belgium, ten million eight hundred thousand francs instead of fifteen millions; Switzerland, seven million two hundred thousand francs instead of ten millions; Greece, which had recently joined the union, was authorized to coin fifteen million six hundred thousand francs, of which eight million four hundred thousand francs were allowed in the place of old silver specie withdrawn.

This determination had scarcely been adopted when silver suffered a new decline, much more rapid this time than previously. In the space of two months it lost 3, even 4, per cent.; so that the difference between the commercial and the legal value of the metal reached 12 and 13 per cent.

Such was the state of things when the new chambers of France met. One of the first acts of the minister of finances was to present a bill empowering the government to restrict the coinage of silver in so far as it might be deemed necessary, or, in other words, not to avail itself to the full extent of the right granted to France by the monetary convention. It must be observed, in fact, that while the convention established a maximum amount of coinage, it establishes no mimimum, and that in 1874 and 1875 France coined the maximum allotted to her only because her laws did not allow her to do otherwise.

The object of the bill introduced by Mr. Léon Say is to alter this state of things. It was brought before the senate on the 21st of this month, and gave rise to a long and interesting debate, in which Mr. de Parieu, a man eminent by his special knowledge of monetary matters, attacked the principle of the double standard vigorously, while Mr. Rouland, governor of the Bank of France, with marked ability defended it. The bill will certainly pass; but the question now is, whether the new law will produce the result expected from it. When France has completely stopped coining silver, will the depreciation of this metal be prevented thereby, or even partially checked? It is at least doubtful.

On this highly important question two essentially distinct doctrines are entertained by the financial men and economists of Europe.

On one side stand the *monometallists*, or champions of gold, as the sole monetary standard; on the other, the *bi-metallists*, or supporters of the old system of the double standard. Among the former are Messrs. Louis Bamberger, of Berlin; Max Wirth, of Vienna; Frère-Orban, of Brussels; Feer Herzog, of Berne; and in France, Michel Chevalier, de Parieu, Victor Bonnet, Fred. Passy, and Leroy Beaulieu. Their principal organs are: In London, the Economist; in Paris, the Journal des Débats and the Économiste.

On the other side are Messrs. Malou, minister of finances in Belgium; Laveley and Allard, of Brussels; Count Schlopis, of Turin; Léon Say, Magne, Wolowsky, André, Courcelle-Seneuil, and Henri Cernuschi, of France. The principal organs of this group are the Siècle and the République Française.

The theory of the monometallists may be summed up as follows: The first cause of the perturbation now prevailing in the monetary market is the superabundant production of silver. The mines of the New World, by pouring in upon us tons of this metal at the very time when the coinage of silver is restricted in almost every country, have produced such a difference between its value and that of gold that the balance is irretrievably destroyed. Every attempt, moreover, to maintain a constant ratio between the values of two metals, both of which are subject to so many causes of variation, must always prove utterly useless. There exists but one remedy of real efficacy for the state of things created by the bimetallic system; we must completely abandon that system and adopt gold as our sole monetary standard. On that condition only we shall be able to extricate ourselves from the dangers and difficulties of two metallic standards, legally exchangeable at par, though one of them is much more abundant than the other and at the same time very bulky.

To these arguments, which the very able economist of the Journal des Débats, M. Leroy Beaulieu, advances with great force, and which M. de Parieu presented in the senate with all the authority of his long experience in financial matters, the bimetallists oppose the following answer:

It is not the superabundant production of silver that has caused the perturbation; it is the limitation of the coinage of silver, a measure almost equivalent to total suppression, and the withdrawal of a great part of the silver coin already existing. Silver, having lost the principal use to which it had always been applied, remains partly unemployed, and its depreciation increases as the demand for it goes on decreasing. The total adoption of the monometallic system, far from improving the present state of things, would do nothing but aggravate it, and infallibly result in a fearful financial catastrophe. To extricate ourselves from these difficulties, we should, on the contrary, hasten to retrace our steps and restore silver to its natural destination, by repealing all measures restricting its coinage. So soon as the great powers, resuming the bimetallic system fully, shall decree that the coinage of gold and silver is unlimited, and that the two metals shall always be exchangeable at a rate established once for all—that of 15½ to 1, for instance, which is already generally accepted—there will be no more fluctuations in the relative value of gold and silver. As the two metals will constitute but one monetary mass, the greater or less quantity produced by the mines of either of them can then affect only the total mass. The purchasing power of this mass may increase or diminish according to its greater or less abundance; but gold and silver, whatever may be the quantity

of either, will retain their relative value, since the one will always be the representative of the other.

This theory is certainly very attractive, and it has found in Mr. Henri Cernuschi a most ardent, indefatigable, and ever-ready advocate. In the daily *notes* which he publishes in the Siècle, as well as in a multitude of pamphlets that are immediately translated into English and German, this bold and original economist defends the old principle of the double metallic standard by arguments which I cannot undertake to reproduce in this summary, but which certainly deserve the serious attention of all who take an interest in the question.

Among the considerations invoked by the bimetallists two are certainly of special importance. The first is that every measure restricting the coinage of silver has immediately been followed by a decline of the metal. The fact is undeniable, but it may be a mere coincidence, and not a consequence. It is possible that silver would have declined even if its coinage had not been restricted. The bimetallists here merely invert the argument of the monometallists, who say that the coinage was restricted for the very reason of the decline of silver. The second consideration bears on the enormous perturbations that would infallibly follow the general application of the monometallic system. In order to accomplish it, it would in fact be necessary to withdraw from circulation an enormous quantity of metal.

What, for example, would be the amount of it for France, Germany, and British India alone?

In France, from 1795 to 1871 inclusive, silver has been coined to the value of five thousand one hundred and twenty-two millions of francs. Of these, two hundred and thirty-six millions have been withdrawn by government, and it is estimated that of the balance only twelve to fifteen hundred millions, in five-franc pieces, still exist in France, of which four hundred and ninety-five millions are at present in the vaults of the bank. Suppose four hundred millions to be kept for small payments and as change, from eight hundred to eleven hundred millions will be left for withdrawal.

In Germany, according to official statements published in Berlin, the total amount of the silver coined by the different German states before 1871 is sixty-eight millions of pounds sterling. The silver still circulating amounts to twenty-one millions, thus leaving a balance of forty-seven millions of pounds. Suppose about seventeen millions to have disappeared by exportation or melting, there would remain thirty millions of pounds sterling, or seven hundred and fifty millions of francs, to be withdrawn.

For India we have no exact statistics. It is generally supposed that the circulation of that country amounts to one hundred and fifty millions of pounds, which is not at all extraordinary, when we consider that the population of India is seven times that of Great Britain and that gold coin is unknown in the country. In India alone the sum to be withdrawn would therefore be as much as fifteen hundred or two thousand millions of francs; so that the total amount to be called in would be at least three thousand five hundred millions of francs—that is, seven hundred millions of dollars—rendered useless as a currency, and of which the governments would have to dispose at an enormous discount. The bare mention of these figures is sufficient to give an idea of the crisis that would take place in the whole world as a consequence of so gigantic an operation as that recommended by the monometallists.

I shall not undertake to discuss, and still less to propose, a solution for the great monetary problem now impending over the world. I hope,

however, that this summary of the question, perhaps too long extended, may be of some utility in helping you to a clearer understanding of the manner in which it is viewed in France,

I have the honor to be, very respectfully, your obedient servant,

E. B. WASHBURNE.

Hon. HAMILTON FISH,
Secretary of State.

B.—*Fabrication des monnaies françaises du 1er janvier au 30 novembre 1876.*

Or.	Argent.	Total.	Bronze.		
Pièces de 20 francs.	Pièces de 5 francs.	Or et argent.	10 centimes.	5 centimes.	Total.
Francs. 156, 157, 720	*Francs.* 51, 140, 525	*Francs.* 207, 298, 245	*Francs.* 99, 601 80	*Francs.* 172, 652 50	*Francs.* 272, 254 30

C.—*Mouvement des métaux précieux en France pendant les onze premiers mois de l'année* 1876.

COMMERCE SPÉCIAL, (valeur exprimée en millions.)

Or.							Argent.							Or et argent.		
Importation.			Exportation.			Différence en faveur de l'importation.	Importation.			Exportation.			Différence en faveur de l'importation.	Importation totale.	Exportation totale.	Différence en faveur de l'importation totale.
Brut.	Monnaies.	Total.	Brut.	Monnaies.	Total.		Brut.	Monnaies.	Total.	Brut.	Monnaies.	Total.				
93, 352	480, 601	573, 953	2, 271	84, 358	86, 629	487, 324	59, 566	128, 591	188, 157	18, 942	39, 801	58, 743	129, 414	762, 110	145, 372	616, 738

COMMERCE SPÉCIAL, (*non-compris l'or et l'argent.*)

	Millions de francs.
Importations	3, 571
Exportations	3, 301
Différence en faveur de l'importation	270

D.—*Poids des ouvrages d'or et d'argent, présentés aux bureaux de garantie.*

Années.	Poids.		Années.	Poids.	
	Or.	Argent.		Or.	Argent.
	Kilogrammes.	*Kilogrammes.*		*Kilogrammes.*	*Kilogrammes.*
1855	10, 633, 066	88, 522, 398	1866	15, 234, 586	74, 655, 677
1856	10, 669, 170	100, 896, 554	1867	15, 022, 947	73, 378, 677
1857	14, 590, 940	89, 936, 010	1868	14, 966, 720	76, 401, 083
1858	13, 831, 091	87, 592, 330	1869	14, 896, 032	71, 294, 352
1859	12, 282, 809	89, 304, 317	1870	10, 857, 181	47, 686, 994
1860	14, 460, 594	94, 391, 941	1871	9, 403, 029	55, 755, 694
1861	13, 995, 521	93, 169, 428	1872	14, 963, 118	91, 739, 776
1862	15, 384, 509	91, 966, 981	1873	13, 065, 771	105, 883, 643
1863	16, 436, 467	89, 758, 217	1874	14, 194, 576	73, 394, 934
1864	15, 913, 121	74, 817, 168	1875	14, 911, 660	81, 634, 467
1865	15, 415, 015	73, 307, 778	1876, (3 prem. trim)..	10, 157, 432	55, 606, 325

GERMANY.

A.—Secretary of Legation Fish to Secretary of State, inclosing coinage laws.
B.—Coinage-law of December 4, 1871.
C.—Coinage-law of July 9, 1873.
D.—Minister Davis to Secretary of State, inclosing replies to interrogatories.
E.—Replies to interrogatories of commission.
E³.—Appendix, mint-law in German, omitted.
E⁴.—Appendix, mint-law in German, omitted.
F.—Replies of M. Nothomb, consul-general of Belgium at Hamburg, to interrogatories of Commission.

A.

LEGATION OF THE UNITED STATES,
Berlin, October 23, 1876.

SIR: Referring to your circular of 18th September, in regard to the information desired by the commission of Congress, I have the honor, in advance of a reply from the foreign office to my note of the 5th instant, to transmit herewith copies of the coinage-laws of the Empire of 11th November, 1871, and of 9th July, 1873, together with translations of the same. Copies of these laws were sent by Mr. Bancroft to the director of the mint in October, 1873, in compliance with your circular No. 38, of 16th April of that year. Under the provisions of these laws there has been coined up to October 7, 1876, a coinage amounting to 1,790,471,158.73 marks in value. The division among the respective metals is as follows:

	Marks.
Gold	1,425,193,360
Silver	322,544,977.30
Nickel	33,556,523.80
Copper	9,176,297.63

I annex an extract from the National Zeitung, showing the division of these amounts among the respective coins.

I have the honor to be, sir, your obedient servant,
NICHOLAS FISH.

Hon. HAMILTON FISH,
Secretary of State.

B.

Translation of German gold-coinage law of December 4, 1871.

No. 745.

LAW concerning the coining of imperial gold coins of December 4, 1871.

We, William, by the grace of God German Emperor, King of Prussia, &c., decree, in the name of the German Empire, after the approval of the Federal Council and Imperial Diet, as follows:

§ 1. There shall be coined an imperial gold coin, of which 139½ pieces shall be made from a pound (pfund) of pure gold.

§ 2. The tenth part of this gold coin shall be called a mark, and divided into a hundred pfennige.

§ 3. Besides the imperial gold coin of ten marks, (§ 1,) there shall also be coined imperial gold coins of twenty marks, of which 69¾ pieces shall be made of a pound (pfund) of pure gold.

§ 4. The alloy of the imperial gold coins shall be fixed at .900 parts gold and .100 parts copper. Accordingly, 125.55 ten-mark pieces or 62.775 twenty-mark pieces weigh one pound, (pfund.)

§ 5. The imperial gold coins shall bear on one side the imperial eagle, with the inscription "Deutsches Reich," and with the statement of the value in marks, as well as the number of year (date) of the coinage; on the other side the likeness of the ruler of the state, or, in the case of free cities, the emblem of such free city, with an appropriate inscription and local mint mark. The diameter of the coins, the nature and inscription of the edges of the same, shall be fixed by the Federal Council.

§ 6. Until the decree of a law concerning the withdrawal of the large silver coins, the coining of the gold coins shall follow at the cost of the Empire for all the states of the union at the mints of those states as shall have declared themselves prepared therefor. The chancellor of the Empire shall determine, with the agreement of the Federal Council, the amounts of gold to be coined, the division of these amounts among the different sorts of coin and among the different mints, and in due proportion the compensation to be allowed the latter for the coinage of each sort of coin. He shall supply the mints with the gold which is necessary to the coinage assigned to them.

§ 7. The execution of the coining of the imperial gold coins shall be fixed by the federal council and subject to supervision on the part of the empire. This management shall determine the perfect accuracy of the coins according to value and weight. So far as an absolute accuracy cannot be maintained, the variation in excess or in diminution shall not exceed in weight more than two and one-half thousandths parts of its weight, in fineness not more than two thousandths parts.

§ 8. All payments which by law are paid or which may be paid in the silver coins of thaler currency, of the South German currency, of the Lubeck or Hamburg courant currency, or in the thalers of the gold Bremen currency, can, to a like extent, be paid in imperial gold coins, (§§ 1 and 3,) which will be reckoned as follows: The ten-mark piece as worth 3⅓ thaler, or 5 florins 50 kreutzers, South German currency; 8 marks 5⅓ schilling Lubeck or Hamburg courant currency; $3\frac{1}{30}$ thalers gold Bremen currency; the twenty-mark piece as worth 6⅔ thalers, or 11 florins 40 kreutzers, South German currency; 16 marks 10⅔ schilling Lubeck or Hamburg courant currency; $6\frac{2}{30}$ thalers gold Bremen currency.

§ 9. Imperial gold coins, whose weight is not more than 5 thousandths parts less than the standard weight, (§ 4,) (passirgewicht=tolerated weight,) and which have not become diminished in weight through violent or illegal injury, shall be received in all payments as being of full weight. Imperial gold coins, which do not attain the aforesaid tolerated weight, (passirgewicht,) and that may be received in payment at the imperial, state, provincial, or communal treasuries, as well as at the gold or credit establishments and banks, shall not again be issued by the said treasuries and establishments. When, in consequence of long circulation and wear, the imperial gold coins have suffered so much in weight that they no longer attain the tolerated weight, they shall be withdrawn for melting at the expense of the state. Further, such worn gold pieces shall always be received by all the treasuries of the empire and of the states of the bund at the same value at which they were issued.

§ 10. The coinage of other gold coins than those introduced by this law, as well as of large silver pieces, with the exception of medals, shall not take place until further notice.

§ 11. The present current gold coins of the German bund states are to be withdrawn on account of and at the cost of the empire in proportion to the gold coinage of the new gold pieces, (§ 6.) The chancellor of the empire is empowered in the same way to direct the withdrawal of the former large silver pieces of the German states of the bund, and to take for this purpose the necessary means out of the funds set apart for the same in the imperial treasury. Concerning the execution of the foregoing provisions, an account is to be given annually to the Imperial Parliament at its first regular session.

§ 12. Weights for gauging and stamping shall be permitted which shall represent the standard weight and the current weight of the coins to be coined by the provisions of this law; also multiples of each of the same. For the gauging and stamping of these weights, the provisions of articles 10 and 18 of the regulations for measures and weights of the 17th August, 1868, shall be binding.

§ 13. In the territory of the kingdom of Bavaria, in case of necessity, a subdivision of the pfennig into two half-pfennige may be made.

In testimony whereof we have hereunto set our hand and the imperial great seal.

Given at Berlin December 4, 1871.

[L. S.] WILLIAM.

PRINCE VN. BISMARCK.

Published at Berlin December 7, 1871.

C.

Translation of German coinage-law of July 9, 1873.

No. 953.

MINT-LAW OF JULY 9, 1873.

We, William, by the grace of God German Emperor, King of Prussia, &c., decree in the name of the German Empire, after the approval of the federal council and the Imperial Parliament, as follows:

ARTICLE 1. The imperial gold coinage takes the place of the present currencies of the states. Its unit is the mark, as the same is established by § 2 of the law of 4th December, 1871, concerning the coinage of im-

perial gold coins, (Reichs Gesetsbl., p. 404.) The date on which the imperial coinage shall go into effect in the whole district of the empire will be fixed by a decree of the Emperor to be issued with the consent of the federal council, to be published at least three months before the arrival of that date. The states' governments are empowered also before that date to introduce the imperial mark currency by a decree in their district.

ARTICLE 2. Besides the imperial gold coins mentioned in the law of 4th December, 1871, there shall also be coined imperial gold coins of five marks, of which 279 pieces shall be made from a pfund (pound) of pure gold. The provisions of §§ 4, 5, 7, 8, and 9 of that law have appropriate application to this coin, but with the provision that in regard to it the variation in excess or in diminution (§ 7) shall amount to four thousandths parts, and the difference between the standard weight and the tolerated weight (§ 9) to eight thousandths parts.

ARTICLE 3. Besides the imperial gold coins, there shall be coined as imperial coins—

1. As silver coins, five-mark pieces, two-mark pieces, one-mark pieces, fifty-pfennig pieces, twenty-pfennig pieces;
2. As nickel coins, ten-pfennig pieces and five-pfennig pieces;
3. As copper coins, two-pfennig pieces, one-pfennig pieces;

according to the following provisions:

§ 1. In the coining of silver coins the pound (pfund) of fine silver shall be made into 20 five-mark pieces, 50 two-mark pieces, 100 one-mark pieces, 200 fifty-pfennig pieces, and into 500 twenty-pfennig pieces. The alloy consists of 900 parts silver and 100 parts copper, so that 90 marks in silver coins weigh one pound, (pfund.) The execution of the coining of these coins shall be regulated by the federal council. In the single pieces the variation in excess or in diminution shall not exceed three thousandths parts in weight, with exception of the twenty-pfennig pieces, not more than ten thousandths parts. In the bulk, however, the standard weight and the standard fineness must be attained in regard to all silver coins.

§ 2. The silver coins above one mark bear on one side the imperial eagle with the inscription "Deutsches Reich," and the statement of the value in marks as well as the date of the coining; on the other side, the likeness of the ruler of the state, or in the case of free cities, the emblem of the free city, with an appropriate inscription and the mint-mark. The diameter of the coins, the nature and inscription of the edges of the same, shall be fixed by the Federal Council.

§ 3. The remaining silver coins, the nickel and copper coins, bear on one side the statement of value, the date, and the inscription "Deutsches Reich," on the other side the imperial eagle and mint-mark. The more exact regulations concerning the composition, weight, and diameter of these coins, as well as the ornamentation of the reverse side and the finishing of the edges, shall be determined by the Federal Council.

§ 4. The silver, nickel, and copper coins shall be coined at the mints of those states that declare that they are prepared for the purpose. The coining and issuing of these coins is subjected to supervision by the empire. The chancellor of the empire shall determine, with the consent of the Federal Council, the amounts to be coined, the division of these amounts among the various sorts of coins and among the different mints, and in due proportion the compensation to be allowed for the coining of each sort of coin. The furnishing of the metal for the coinage for the mints is to be effected upon an order of the chancellor of the empire.

ARTICLE 4. The entire amount of imperial silver coins shall not, until otherwise directed, exceed ten marks per capita of the population of the empire. Upon each issue of these coins an equal quantity in value of the circulating coarse silver coins of the states, beginning with those not belonging to the thirty-thaler basis, shall be withdrawn. The value is to be computed according to Article 14, § 2.

ARTICLE 5. The entire amount of the nickel and copper coins shall not exceed two and a half marks per capita of the population of the empire.

ARTICLE 6. Of the fractional coins of the different states the following are to be withdrawn by the date of the inauguration of the imperial currency, (Article 1:)

1. Those depending on the thaler-basis, with the exception of the Bavarian heller, and of the five, two, and one pfennig pieces of Mecklenburg, coined under the mark system.

2. The fractional coins of 2 and 4 pfennige depending on the duodecimal division of the groschen.

3. The fractional coins of the thaler currency, depending on another division of the thaler than that of 30 groschen, with the exception of the pieces of the value of $\frac{1}{12}$ thaler, after this date no one shall be obliged to receive these fractional coins in payment, except the treasuries, upon which the duty of redeeming them devolves.

ARTICLE 7. The coining of the silver, nickel, and copper coins, (article 3,) as well as the withdrawal of the silver coins and fractional coins of the states, shall be effected at the cost of the empire.

ARTICLE 8. The Federal Council will direct the withdrawal of the coins of the states and establish the necessary provision for the same. The notices concerning the withdrawal of the coins of the states are, in addition to the publication in papers to be determined by direction of the states, to be also published in the Reichs-Gasetzblatt. A withdrawal shall only then take place when a period for redemption of at least four weeks has been appointed, and has been made known by the designated papers at least three months before its expiration.

ARTICLE 9. No one is obliged to receive in payment imperial silver coins in an amount greater than twenty marks, and nickel and copper coins in an amount greater than one mark. By the imperial and states' treasuries imperial silver coins shall be received in any amount. The Federal Council will designate those treasuries that will deliver imperial gold coin upon the payment of imperial silver coin for the same, in sums of at least 200 marks, or of nickel and copper coins in sums of at least 50 marks, upon demand. It will also prescribe the particular conditions of the exchange.

ARTICLE 10. The obligation to receive and exchange (article 9) does not apply to perforated coins or to any whose weight has been otherwise diminished than by ordinary circulation, nor to counterfeited coins. Imperial silver, nickel, and copper coins which have lost materially in consequence of long circulation and use in weight or inscription will be nevertheless received in all the treasuries of the empire and of the states, but will be withdrawn at the cost of the empire.

ARTICLE 11. Coins, other than the silver, nickel, and copper coins, introduced by this law will hereafter not be coined. The right reserved by the provision contained in section 10 of the law concerning the coinage of imperial gold coins of December 4, 1871, (Imperial Law Gazette, p. 404,) to coin silver coins as medals expires on December 31, 1873.

ARTICLE 12. Imperial gold coins will be coined hereafter according to the provisions of section 6 of the law concerning the coinage of im-

perial gold coins of December 4, 1871, (Imperial Law Gazette, p. 404,) at the expense of the empire. Private persons shall have the right to have twenty-mark pieces coined for their account at such mints as have declared themselves ready to coin for the account of the empire in so far as such mints are not engaged for the empire. The charge to be made for such coinage will be fixed by the imperial chancellor with the concurrence of the Federal Council, but shall not exceed the maximum of 7 marks for the pound of pure gold. The difference between this charge and the compensation which the mint claims for coining goes to the imperial treasury. This difference must be the same for all German mints. The mints shall claim no greater compensation for coining than the imperial treasury allows for the coinage of twenty-mark pieces.

ARTICLE 13. The Federal Council is empowered—

1. To fix the value beyond which foreign gold and silver coins shall not be tendered and given in payment, as also to wholly prohibit the circulation of foreign coins.

2. To determine whether foreign coins may be taken in payment by the treasury of the empire or the several states in inland commerce at a rate to be published, and also in such cases to fix the rate. Habitual contravention against the dispositions made by the Federal Council in accordance with provision 1 will be fined 150 marks or punished with imprisonment not exceeding six weeks.

ARTICLE 14. From the inauguration of the imperial currency the following provisions shall be in force:

SECTION 1. All payments which until that time were to be made in coins of an inland currency or in foreign coins made equivalent to inland coins by the laws of the several states shall be made in imperial coin, without prejudice, however, to the provisions of articles 9, 15, and 16.

SECTION 2. The conversion of gold coins, for which a certain proportion to silver coins is not fixed by law, is to be made according to the proportion of the pure gold contained according to law in the coins mentioned in the obligation to pay to the pure gold contained in the imperial gold coin according to law. In the conversion of other coins the thaler will be reckoned at the value of 3 marks; the gulden of South German currency at the value of $1\frac{5}{7}$ marks; the mark of Lubeck or Hamburg currency (kurantwährung) at the value of $1\frac{1}{5}$ marks, and the remaining coins of the same currencies at corresponding values, according to their proportion to the coins mentioned. In the conversion, fractions of pfennige of the imperial currency will be reckoned at one pfennig if they amount to one-half pfennig or more; fractions under one-half pfennig are not reckoned.

SECTION 3. If obligations to pay are entered into after the inauguration of the imperial currency on the basis of former inland money or accounting currencies, (geld- oder rechnungswährungen,) payment shall be made in imperial coin according to the provisions of section 2, without prejudice to articles 9, 15, and 16.

SECTION 4. In all documents of writing made in court or before a notary public concerning an amount of money, and also in all judgments of courts which condemn to a sum of money, this sum of money, if a certain proportion of the same to the imperial currency is legally established, is to be expressed in imperial currency; besides which, however, the designation according to the currency in which the obligation was originally entered into is allowed at the same time.

ARTICLE 15. In the place of the imperial coins there are to be received in all payments until the withdrawal from circulation—

1. In the entire territory of the bund in place of all imperial coins the

one and two-thaler pieces of German coinage, reckoning the thaler at 3 marks.

2. In the entire territory of the bund in place of the imperial silver coins, current silver coins of German coinage of $\frac{1}{3}$ and $\frac{1}{6}$ thaler, reckoning the $\frac{1}{3}$ thaler at one mark and the $\frac{1}{6}$ thaler at half a mark. * * *

3. In those countries in which at present the thaler currency obtains, instead of the imperial nickel and copper coins the following coins of the thaler currency at the values given beside them: $\frac{1}{2}$ thaler pieces, at the value of 25 pfennige; $\frac{1}{15}$ thaler pieces, at the value of 20 pfennige; $\frac{1}{30}$ thaler pieces, at the value of 10 pfennige; $\frac{1}{2}$ groschen pieces, at the value of 5 pfennige; $\frac{1}{5}$ groschen pieces, at the value of 2 pfennige; $\frac{1}{10}$ and $\frac{1}{12}$ groschen pieces, at the value of 1 pfennige.

4. In those countries in which the duodecimal division of the groschen exists, in the place of the imperial nickel and copper coins the three-pfennige pieces based on the duodecimal division of the groschen at the value of $2\frac{1}{2}$ pfennige.

5. In Bavaria, in the place of the imperial copper coins the heller pieces at the value of $\frac{1}{2}$ pfennige.

6. In Mecklenburg, in place of the imperial copper coins the five-pfennige, two-pfennige, and one-pfennige pieces coined under the mark system at the value of 5, 2, and 1 pfennige. All the coins designated in 3 and 4 are to be received in payment at all public treasuries of the entire empire at the above-stated values until the withdrawal of them from circulation.

ARTICLE 16. German gold crowns, gold coins of the different states, and foreign gold coins declared equal to domestic coins by the law of the land, as well as coarse silver coins which belong to some other currency of par states other than the thaler currency are to be received in payment until withdrawn from circulation, in so far as payment in these coins must have been accepted according to heretofore-existing rules.

ARTICLE 17. Already, before the inauguration of the imperial gold currency, all payments which may legally be made in coin of a domestic currency or in foreign coins declared equal to domestic coins by the law of the land, may be made wholly or in part in imperial coins, subject to the provision of article 9, in such manner that the calculation of value is to take place according to article 14, § 2.

ARTICLE 18. By the 1st of January, 1876, all bank-notes not calling for imperial currency are to be withdrawn. After this date only such bank-notes as call for imperial currency in sums of not less than 100 marks shall remain in circulation or be issued. The same provisions apply to the notes hitherto issued by corporations. The paper-money issued by the individual States of the Union is to be withdrawn at the latest by the 1st of January, 1876, and to be called in, at the latest, six months before this date. On the other hand, an issue of imperial paper money will take place in accordance with an imperial law to be enacted. The imperial law will make detailed provisions concerning the issue and circulation of the imperial paper-money, as well as concerning the facilities to be extended to the individual States of the Union in the withdrawal of their paper-money.

In testimony whereof, our own high signature and imperial seal.

Done at Bad Ems July 9, 1873.

[L. S.] WILLIAM.

PRINCE v. BISMARCK.

Published at Berlin July 15, 1873.

[Inclosure.—Translation.]

Extract from National Zeitung, showing amount of imperial coinage to October 7, 1876.

In the German mints up to the 7th of October, 1876, there were coined—

Of gold coins: 1,092,367,980 marks double crowns, (20 marks;) 332,825,380 marks crowns, (10 marks.) Of these 171,345,164 marks were on private account.

Of silver coins: 67,237,590 marks 5-mark pieces, 39,022,844 marks 2-mark pieces, 143,512,165 marks 1-mark pieces, 39,643,058 marks 50 pfennige 50-pfennige pieces, 33,129,319 marks 80-pfennige 20-pfennige pieces.

Of nickel coins: 22,320,799 marks 50 pfennige 10-pfennige pieces, 11,235,724 marks 30 pfennige 5-pfennige pieces.

Of copper coins: 5,831,665 marks 46 pfennige 2-pfennige pieces, 3,344,632 marks 17 pfennige 1-pfennig pieces.

Total coinage: Of gold coins, 1,425,193,360 marks; of silver coins, 322,544,977 marks 30 pfennige; of nickel coins, 33,556,523 marks 80 pfennige; of copper coins, 9,176,297 marks 63 pfennige.

D.

LEGATION OF THE UNITED STATES,
Berlin, November 27, 1876.

SIR: Referring to Mr. Nicholas Fish's communication of October 23, 1876, I have now to inclose answers to the questions propounded to the minister by the inclosure in your circular of the 18th of September last.

Believing that any answer which I could give would be of little use to the congressional committee, I secured, through the kindness of Professor Greist, the valuable attention of Prof. Dr. Adolph Wagner to them.

I have now the pleasure to inclose a copy of his replies to these questions, accompanied by a translation prepared at the legation. Inasmuch, however, as the subject is a technical one and, as with all our care, we may have misapprehended some of the expressions, I respectfully suggest that the German text, as well as the translation, be sent to the committee, in order that they may have the translation carefully examined.

I have the honor to be, sir, your obedient servant,

J. C. BANCROFT DAVIS.

Hon. HAMILTON FISH,
Secretary of State, &c.

E.

Translation of Professor Wagner's answers to the questions propounded by the committee.

Answers to the questions propounded by the United States Monetary Commission:

Ad. 1. The relative value of gold and silver has, in the main, been subject to the same changes in Germany as in other countries, especially as in England.

Ad. 2. The nature and extent of such changes have been the same as in other countries.

Ad. 2 A. Transactions in precious metals were carried on only in Hamburg until the mint reform of 1871.

In Berlin, up to that time, only the usual exchanges of gold in foreign gold coins were made. The prices of the latter, and those of the inland gold coins, Friedrich-d'or, Hanoverian, Brunswick, and other Louis-d'ors were quoted in the Berlin exchange quotations; but this is of less importance in considering the question of the relative value of gold and silver. The price is subject, of course, to the changes in their relations on the market of the world, but it varies with reference to the several kinds, according to the accidental proportion between supply and demand. The price of particular kinds of German coin, the so-called official treasury value, was the criterion, to a certain extent; *i. e.*, the price in standard silver coin, at which the state took the gold coins in payment at its treasuries. So, particularly in Prussia, the treasury value of $5\frac{2}{3}$ thalers for the Friedrich-d'or, a value which, notwithstanding the passing great fall in gold in the years between 1850 and 1860, was maintained, because coining took place to a very limited extent.

Sales of gold in bars, or of larger amounts of foreign gold coin by weight in gold, (the pound at 500 grams,) were but exceptionally recorded. The regular quotations of silver in bars in thalers per pound fine is indifferent in considering the relation of the two metals. These only indicate the fluctuating relation between coined and uncoined silver. Silver in bars was usually several groschens lower, *i. e.*, it was quoted at something less than 30 thalers per pound fine.

In Frankfort-on-the-Main, also, transactions in precious metal were not considerable until 1871. Of the quotations of price the same is to be said, on the whole, as of the Berlin quotations.

By the Vienna coin convention of the German states of 24th January, 1857, (see, also, the Prussian coin-law of 4th May, 1857,) a new universal German coin for commerce at $\frac{1}{50}$ pound gold fine, by the name of "crown" was created; but it was only coined in small quantities. For this reason, and because of its fluctuating silver value, it was never really adopted in commerce. Its silver value was to be fixed, expressly according to article 18 of the Vienna convention, only by the relation of the supply to the demand. To give the crowns the quality of legal tenders was prohibited by the convention. It was admissible to receive them at state treasuries at a fixed value. (See article 21, sub. *a*.) These provisions concerning the establishment of such a treasury value, with the object of not having the silver coins crowded out by the gold coins, and those concerning the quotations of prices, are contained in article 21 and the executive regulations of several of the states. But the greater part of these provisions remained without practical importance. Regular calculations of price, such as the coin convention anticipated, were, therefore, not made, so that, in accordance with the legal and actual condition of a purely silver standard of value and of almost a purely silver circulation, nothing in particular can be concluded from the price of gold in the interior of Germany.

Only in Hamburg a considerable business in precious metals has been done for a long time past, principally in silver, but as well in gold. For the latter, regular quotations existed until 1867, per mark pure (fine) gold in Hamburg mark banco silver ($27\frac{3}{4}$ mark banco=1 Cologne mark pure (fine) silver;) from 1867 to 1872, per pound pure gold, at 500 grams; since 1873, in imperial marks, as well for gold in bars, as (regularly since 1873) for coined gold per 500 grams. The Hamburg

gold market, it is true, is dependent principally upon the English market, procures its gold by way of the latter, and only in small quantities, directly from North America. Nevertheless, the Hamburg quotations have, to a certain extent, an independent importance, in so far as such importance can, at the present day, be attributed to any single market, particularly in a branch in which such market takes only a secondary rank. For some time past Russian Siberian gold, to a considerable amount, has entered the market of the world by way of Hamburg, which, at times, has been of influence on the quotations of price.

The references in regard to Hamburg are to be found in the official price-list, and in the annual statistical work, "Tabulary Survey of Hamburg's Commerce," which latter has utilized the official price-list for average circulations, and also in the various works by Soetbeer on this subject. From the tabulary survey, I compile the following table of the price of gold in bars in silver in Hamburg:

Marks banco silver for gold al marco (= 233.85489 *grams.*)

Years.	Maximum.	Minimum.	Average of the semi-weekly quotations.
1850	437	417	432 13/16
1851	428.5	419	425 7/8
1852	430.5	424.5	427 1/4
1853	429	420	425 3/8
1854	426.5	419	422 1/4
1855	429	423	425 3/16
1856	427.5	423	424 1/8
1857	424.5	415	423
1858	427.5	415	423 7/16
1859	425.5	418.5	422 3/8
1860	425.5	420.5	223 5/16
1861	430	424	426 13/16
1862	425.5	421.5	425
1863	422	422.5	424 3/16
1864	426.5	423	424 3/16
1865	428	422.5	425 1/4
1866	427	421	423 5/8
1867	430	424	427 1/4

These quotations show the changes of the value of gold. When gold is to silver as 1 is to 15.5, (as in the French and German coin law,) the price of gold is 430 1/8 marks banco.

Marks banco silver per pound pure gold in bars, (500 *grams.*)

Years.	Maximum.	Minimum.	Average.
1868	929	916	920 1/4
1869	924	920	921 3/16
1870	925	910	916 11/16
1871	925	920	920 1/2
1872	936	920	923 5/16

Imperial marks per pound pure gold in bars.

Years.	Maximum.	Minimum.	Average.
1873	1385	1377	1381.24
1874	1390	1370	1379.75
1875	1395	1385	1387.86

As accounts have been kept in Hamburg since 1873 in imperial marks, and gold has, in the main, been made the standard of value, the quotations of silver in bars in imperial marks indicates the relation

of the value of gold and silver. The price in imperial marks per pound pure silver was in—

Years.	Maximum.	Minimum.	Average in gold marks.	Ratio.
1873	87.70	85.00	86.61	16.1
1874	87.00	84.70	85.97	16.2
1875	85.50	81.90	83.89	16.6

A gold price in silver marks banco (1868–'71) of 919.6 and a silver price in imperial coin of 90 reichs (imperial) marks is equal to a relative value of 1 to 15.5.

Since the French war and the German coin reform, Berlin has also, besides Hamburg, become a more important market for transactions in precious metals. The regular exchange quotations, which refer to gold bars of 500 grams, to "imperials" and napoleons d'or per 500 grams, are therefore of greater importance now. The principal business is done in the Russian coins referred to. But it fluctuates greatly in amount, according to the price of exchange. Occasionally quotations are entirely wanting for long periods of time. Since the imperial bank is the principal purchaser, the so-called "bank-price" (1,392 marks) per pound pure gold which it offers has an influence on establishing the price at the exchange. The transactions in silver are principally confined to Austrian florins and quarter florins. Their price follows, as a whole, the London price of silver, yet it always deviates a trifle from this. Generally it is more favorable. For the two years of 1874 and 1875 the following is a survey of the "ultimo" prices, so far as the same have been reported. (See price-list of Berlin exchange, 1874 and 1875; Rostock, 1875, 1876.)

Date.	Napoleons.*		Imperials.*		Austrian silver florins.*	
	1874.	1875.	1874.	1875.	1874.	1875.
January	1,386	1,402	1,386	.....	95.25	191.50
February	1,392	1,405	1,383.75	1,400	94.75	.....
March	1,392	1,406.4	1,383	1,400	95	.....
April	1,398	1,409	1,386	1,404	95.62	189.60
May	1,392	1,415	1,387.5	1,406	95.25	187
June	.....	1,406	1,389.75	1,400	95.62	.....
July	1,401	.....	1,395	1,393.5	95	.....
August	1,407	.....	1,402.87	1,391	95.75	184.50
September	1,407	.....	1,401.75	.....	.....	.....
October	1,404	.....	1,396.5	1,392.5	85.37	185
November	1,407	1,396	1,405.5	.....	96	.....
December	1,399.5	1,395	1,399.5	1,392	.....	182.50

*Per 500 grams in imperial marks.

Price of Austrian silver florins on the 11th of November, 1876, 175.5. This quotation and the one of 1875 are to be understood as follows: For 100 Austrian florins, 175.5 marks. In the year 1874 the quotations refer to "per cent." At a relative value of 1 to 15.5 between gold and silver, 100 florins equal 200 marks. The par price of foreign gold is 1,395 marks per pound of 500 grams, according to the coin-law of 1871.

Ad. 2 B. A distinction must here be drawn between the periods before and after, or rather since the German coin reform, which has not yet been fully carried out.

I.—PERIOD BEFORE THE COIN REFORM.

Until the introduction of this reform (1871, ff.) silver was the sole standard of value throughout Germany, excepting Bremen, according to the provisions of the Vienna coin convention of 1857. (January 24.)

The principal coin was the thaler, ("vereins thaler,") of thirty to the

pound pure silver; (until then fourteen to the Cologne mark of pure silver, which involved a reduction of the amount of silver contained in the thaler of almost ¼ per cent.) These coins and the "double thalers" were legal tender throughout the territory of the Vienna coin convention.

The other larger silver coins, the smallest admissible fraction of which was the one-sixth thaler, the one-fourth Rhenish florin, (South German,) and the one-fourth Austrian florin, were coined in full weight, (of equal purity with the thaler,) but was legal tender only in the country in which it was coined. In such coins debts of every amount could be paid, (hence unlimited legal tender.) Subsidiary coins no one was obliged to accept for larger amounts than the value of the smallest of the larger coins. The Vienna convention fixes a maximum of the subsidiary silver coin, and makes it the duty of the several states to redeem the subsidiary coin, on demand, in larger coins, (articles 14, 15.) Gold coins (see *ante*, 4, the new "crowns") shall not have their value fixed in silver.

As a matter of fact, silver has remained the sole standard of value from 1875, (and before, until 1871 ff., *i. e.*, until the new coin legislation.) The circulation of gold, indeed, diminished, compared with former times.

II.—PERIOD SINCE THE COIN REFORM.

See imperial law of 4th December, 1871,* (Imperial Law Gazette, p. 404,) and ditto of 9th July, 1873,† (Imperial Law Gazette, p. 233.)

According to these laws, which are still in the process of being put into execution, gold will be the sole standard of value in Germany at the expiration of the present transition state.

The principal gold coins are the 20-mark piece (now officially styled "double crown") and the 10-mark piece, ("crown;") of the former, 69¾, of the latter, 139½ pieces to the pound of 500 grams pure fine gold; hence, per pound, 1,395 marks. Alloy, 10 per cent. of the gross weight, or one-ninth of the pure metal, (same as in the Vienna convention.) Five-mark pieces are to be coined according to the coin-law, but have not yet been coined.

Only these new coins are to be legal tender for debts of every amount for the future throughout the empire.

To the conversion of all old debts and payments of every nature which were payable in the former silver standard, public as well as private, the sum of 6⅔ thalers silver has been by law established as the equivalent of 20 marks gold. This is a relative value of 1 to 15.5, which was about the relative value at the date of the first-mentioned law. It is the same as that in the French coin law, 200 francs to the kilogram $\frac{9}{10}$ pure silver, and 155 "twenty franc d'or" to the kilogram $\frac{9}{10}$ pure gold. Since 1871 the price of gold has greatly advanced, and that of silver declined, so that 20 marks at times equal about 7⅔ to 8 thalers, or, in other words, the thaler no longer represented 3 marks gold, but only 2.4, 2.5, 2.6 marks gold, as the case may be.

Notwithstanding this the old silver thalers, including the Austrian, are a legal tender for every amount, just as are the gold coins in the proportion of 1 thaler to 3 marks.

Ad. 2 C. All calculations are extremely uncertain, because we only know with certainty—

1. How many and what kind of coins have been coined by the German and Austrian mints.

2. How much has been withdrawn by the several states before and during the present coin reform.

* See B, p. 184. † See C, p. 185.

On the other hand we do not know—

3. How much German coin has gone into foreign lands, and how much has been melted down there and in Germany and Austria.

4. The amount of the foreign coin in circulation in Germany.

The estimates, with reference to 3 and 4, deviate greatly from one another; moreover, the estimates fluctuate at different periods.

Of late, estimates of the amount of coins existing shortly prior to 1871–1873 have been ventured, *i. e.*, about the period of the new coin reform. The estimates which are considered the most reliable were made by Ad. Soetbeer. But a real result can only be arrived at after the completion of the coin reform. In any event I claim with Soetbeer that the estimates of the imperial chancery and of Minister Camphausen of the remaining old thalers is much too low, a fact which is now being gradually conceded.

According to official accounts in the documents of the Reichstag, to the official coin statistics, and to the estimates of the probable loss of coin, we obtain the following figures:

For 1867, (see Soetbeer in German Commercial Gazette for 1874, No. 44.)

To 1867, including coined current silver in million thalers	594.48
Silver in subsidiary coin.....	23.43
Total.....	617.91
Withdrawn by the government.....	95.71
Balance.....	522.20
Of this amount lost, melted down, and exported, estimated about one-third*.....	154.00
	368.00
Circulation of German gold coin.....	15.00
Circulation of Austrian current silver and other foreign kinds of coin, about.....	35.00
Precious metals in banks besides German coin.....	17.00
Total.....	435.00

For the present, *i. e.*, for the fall of 1876, the estimates might be:

Supposed remainder of old silver money, including the Austrian thalers, (is sometimes estimated at a greater sum,) about.....	700.00
Silver coin of imperial standard coined by the end of October, 1876, about.....	340.00
Nickel coin of imperial standard, about.....	35.00
Copper coin of imperial standard, about.....	10.00
New German gold coins, about	1,430.00
Circulating foreign coin, particularly gold, and supply of same and of bullion in banks, about.....	(?)100.00
Total millions of marks.....	*2,615.00
To be deducted therefrom:	
New German gold coin melted down and exported,(especially in 1874,) in circulation in other countries.....	(?)400.00
Total millions of marks.....	*2,215.00

*NOTE.—The arithmetical errors which appear in print are so in the original manuscript.—A. D.

But of this amount 120,000,000 marks in gold lie secure in the imperial war treasury, leaving a balance of about 2,100,000,000 marks, or per capita 50 marks in even numbers.

Of this amount the new German silver, nickel, and copper coins are subsidiary. Of these, 10 marks silver and 2½ marks nickel, and copper per capita, are to be coined in all, according to the coin law, making a total of about 420+105=525,000,000 marks.

The silver coin is a legal tender only to the amount of 20 marks, the nickel and copper coins to the amount of 1 mark. Certain state treasuries are compelled at all times to give gold coins in exchange for silver coins on demand when presented in sums of at least 200 marks, for nickel coins when presented in sums of at least 50 marks.

Ad. 2 D. Cannot even be approximately estimated. In Germany less so than in other countries where a more thorough supervision is exercised over gold and silver manufactures.

Estimates here and there made are wholly arbitrary.

Ad. 2 E. See concerning this the imperial law on imperial treasury-notes of 30th April, 1874, and the imperial law concerning banks of 14th March, 1875. According to these there exists a "state paper money," to wit, the imperial treasury-notes and bank-notes. Neither of them are legal tenders. Both are at all times redeemable on demand in imperial coin and are at par.

The imperial treasury-notes have been substituted for the state paper money of the several states, which has been withdrawn. They are issued in denominations of 5, 20, and 50 marks. The total amount is hereafter to be 120,000,000 marks. For the present it is greater, in all 174,800,000 marks. The surplus beyond 120,000,000 marks must be gradually withdrawn by the year 1890.

Bank-notes can only be issued by the imperial bank, which has been substituted for the Prussian bank, and by a certain number of older banks which had the privilege of issuing notes. All of these banks are subject to certain general restrictions of the bank-law. The smallest note is 100 marks. In all only 385,000,000 marks of bank-notes shall be issued free of taxation, without a covering security in legal money—250,000,000 by the imperial bank, the remainder by other banks. If one of the latter relinquishes the right to issue notes, the part of its unsecured (literally uncovered) notes will accrue to the imperial bank, which has already frequently been done. The notes which shall be issued beyond said lawful amount without metallic security are subject to a tax of 5 per cent. per annum of the amount of the surplus issued. All notes must, in order to circulate freely in the entire empire, be redeemable on demand in the principal cities, particularly in Berlin; they are also, to be taken in payment in larger places by the banks among each other. The old laws and statutes, besides the imperial-bank law, still apply to all banks but the imperial bank.

The circulation of notes, in million marks, amounts to:

	September 30, 1875.	September 30, 1876.
Notes at 50 marks and less	74.637	0.581
Notes over 50 marks and under 100 marks	30.222	0.800
Notes of 100 marks and over	1,020.	969.400
Total	1,132.772	970.931
Of this amount—		
Imperial banks	735.471	740.120
All other banks	398.301	230.789

These changes, particularly with reference to the denominations of the notes, are caused by the new bank-legislation, which has prohibited all notes less than 100 marks. Therefore, the old notes of the lesser denominations (especially of 10 and 25 thalers) had to be withdrawn, which has now nearly been consummated.

The circulation is usually covered, in the banks generally $\frac{1}{3}$ to $\frac{1}{2}$ and in the imperial bank $\frac{1}{2}$ to $\frac{2}{3}$, by legal money in cash.

Ad. 2 F. The mining statistics of the German Empire will now permit an answer to this question for a number of years last past. For the earlier decades of this century the statistics are imperfect; but for Prussia and several of the other states it is possible to go further back. Details are to be found for the late periods in the "quarterly statistics of the German Empire, fourth year, (1870,)" No. 1, section 2, from which the following (p. 72) items are taken. (In the year 1863, the production of the mines in silver was 136,513 pounds, of the value of 12,100,000 marks; in the year 1864, 148,679 pounds, equal to 13,300,000 marks.

Year.	Pound of 500 grams.		Year.	Pound of 500 grams.	
	Silver.	Gold.		Silver.	Gold.
1865	146,692	706 9	1870	185,847	136.3
1866	157,085	310.1	1871	196,201	164.5
1867	176,651	169.5	1872	254,013	565.0
1868	187,118	230.2	1873	354,422	629.9
1869	184,536	158.0	1874	311,705	730.2

The great increase of the silver production of late years, is owing partly to the working of foreign (American and other) ores. Of the production of the year 1874, 92,064 pounds of silver were obtained from the latter ores. This is also partly true of gold. Both precious metals are, to a great extent, obtained as subsidiary products.

Ad. 3. To the general causes existing in the commerce of the world, in general; of late, particularly to the non-use of silver, (Germany, Scandinavia,) the crowding out of silver from countries with paper currencies, (Austria, Russia, &c.)

Ad. 4. Cannot be answered in brief beyond what was said in No. 2, and the foregoing. After the final removal of the surplus silver from Germany, (about 500–600 million marks are yet to be sold) and after the consummation of the introduction of a gold standard into the countries of the Latin coin convention, a cessation will likely occur in the decline of silver. For production may moderate in consequence of this decline, and the demand for subsidiary coin and industrial purposes may be more likely to balance the supply, especially if the countries with a paper legal-tender again return to a solid metal basis.

Ad. 5. Can also not be answered in brief, any more than has already been done indirectly, in the foregoing. The decline in the price of silver of late years, renders the German coin-reform difficult, because it involves great loss by the sale of silver, (for the rest of the German silver about 80–100 million marks.) Already the sale of silver has been much retarded by this decline.

Ad. 6. A distinction must be made between gold and silver in the present German coin.

1. The coinage of silver, true to its nature of subsidiary coin in the system of a gold standard, is limited. The government coins only on its own account, the pound of silver at 100 marks, whereas, at the relative

value of 1 : 15.5 only 90 marks would go to the pound of pure silver. Therefore, the seigniorage is $\frac{1}{9}$. The coinage is not to exceed 10 marks per capita of the population.

2. Gold coinage is free for 20-mark pieces. The maximum charge of 7 marks per pound, pure gold, (out of which 1,395 marks are coined,) for coining shall not be exceeded. But as the imperial bank is bound to give 1,392 marks in notes for the pound pure gold, and, as these notes are convertible at any moment, (§ 14, bank-law, 1875) the charge is really only 3 marks per pound pure gold.

3. In Germany there are only state mints, and, hitherto, only mints of the several states, not of the empire. These mints work for the empire at a fixed price.

4. The importation of foreign coins is permitted. But they are not legal tender. But one exception to this rule obtains, for the Austrian thalers, which are admissible equally with the German thalers as a legal tender.

5. No coins are coined for foreign countries, to my knowledge.

6. To my knowledge no imitations of subsidiary coins are, as yet, to be complained of with us. But the danger with silver coins is imminent, because at the present declined value of silver, and at the above-mentioned seigniorage, their real value is 20–2 5 per cent. below their nominal value.

Ad. 7. The importation and exportation of coin and bullion is not sufficiently recorded in Germany. The scattered items in the trade s tatistics of the empire are wholly useless. Hamburg has reliable statistics of importation, (of late also statistics of exportation,) but from these few general conclusions can be arrived at. According to these the importations and exportations of Hamburg were in imperial marks :

	Seaward importation.*		Exportation.†	
	1874.	1875.	1874.	1875.
Gold, coined	631, 400	30, 198, 200	1, 581, 000	4, 906, 800
Gold, uncoined	1, 590, 400	131, 626, 710	449, 100	530, 900
Silver, coined	2, 568, 060	10, 166, 630	18, 905, 520	13, 962, 600
Silver, uncoined	14, 784, 908	11, 729, 460	34, 141, 460	12, 406, 800
Specie, (unspecified)	962, 340	789, 570	117, 300	266, 600
Total	20, 537, 100	184, 510, 600	55, 192, 380	32, 073, 700

*Seaward and including via Altona. †Ditto excluding via Altona.

The annual average of importation seaward and via Altona of specie was, in millions of marks:

1846–'50	16. 25	1861–'65	17. 46
1851–'55	33. 44	1866–'70	29. 67
1856–'60	29. 36	1871–'75	169. 55

(See tabulary survey of Hamburg trade for 1875, pp. 206, 207.)

Ad. 8. The mining of silver and gold is still subject to the general mining legislation of the several states. In consideration of the minor importance of the German production of precious metals, in which, too, gold and silver are mostly only subsidiary products, it is not necessary to enter more minutely into the condition of mining.

A special tax, with the exception of the general tax on mining, (which is generally very low,) does not exist as a rule.

Ad. 9. Compare the references above made. For the mint and bank

law in particular, see the commentary of Soetbeer, Erlangen, Palm and Meirs, 1875, (several numbers.) Also the works of Morel, mentioned.

Berlin, November 14, 1876.

DR. AD. WAGNER.

F.

HAMBURG, *December* 12, 1876.

Chairman of the Monetary Commission of the United States:

You do me the honor of communicating to me, through your letter of the 27th of October, a set of questions in regard to the decline of silver, asking me to answer them.

The causes which have brought on the extraordinary decline in the price of silver compared with that of gold are shown in detail in the English report "on depreciation of silver," and I would be really embarrassed to add anything thereto. Since that report was published the fifth memorandum on the execution of German monetary legislation appeared, (Deutscher Reichstag, No. 32, November 11, 1876.) This document contains interesting information with regard to the transactions which the German government carried on.

And first, that which strikes one is the insignificant quantity of silver sold by Germany. This quantity amounts, up to the 30th of September, 1876, to 2,176,939 pounds of fine silver, worth 90 marks per pound, 195,924,536 marks, and proceeding from the recoinage of ancient moneys of a nominal value of 204,856,160 marks. This is all that has been thrown on the world's market since the origin of the monetary reform, and they pretend that it is this small sum of 196 millions of marks, distributed over several years, which can possibly have brought about the depreciation in silver. It does not appear that this is sustainable, especially if we consider that France and her monetary allies have during the same period absorbed a much greater quantity. The principal reason of the decline of silver is the change occasioned in the nature of the remittances which England has to make to the Indies, remittances formerly made principally in silver, now in government bills; as the report of the English commission demonstrates it, (pp. xxxii and xxxiii.) The annual mean excess of the ingots over the bills was £2,600,000 from 1868 to 1872; from 1872 to 1876, the mean excess of the bills, on the contrary, was £8,500,000. It is therefore a difference between the two periods, amounting to £11,100,000, or 266 millions of marks per year. This is a factor much more important than the 50 or 60 millions sold annually by the German government. It has been more or less rashly conjectured what quantity of silver Germany will have yet to dispose of before she shall have completed her monetary reform.

By the help of the new figures contained in the German parliamentary document quoted above, one can establish the following calculations, which, like the analogous calculations made previously, can be considered but as a calculation of probabilities. The coins of southern Germany having all been withdrawn we are given a starting-point to appreciate the fraction of the ancient coins which has disappeared; nothing, in truth, proves that the proportion will be the same for the coins of North Germany, (thaler,) the only ones which are left in circulation at this moment, but in the absence of any other bases this one is yet the least uncertain. Only taking into consideration the pieces of 2, 1, and ½ florins, it is found that on a total quantity issued of florins, 119,469,000,

there was returned to the treasury of state 91,014,000; the difference, 28,455,000, constitutes the fraction which has been exported, melted, or lost; it amounts to 24 per cent., or about one-fourth of the emissions, which is inferior to what has been admitted up to now. On applying this rate to the coins of North Germany (system of the thaler) we find the following result:

Quantity issued, millions of marks		1,628
Loss of ¼		407
Remain		1,221
There have been withdrawn from circulation up to 1871	144	
From 1871 to September 30, 1876	389	
		553
Difference		688

which would indicate the probable circulation at this moment. The total amount of new silver coins fabricated must not exceed 430 millions. There have been fabricated 317 millions; remain to be fabricated 113 millions, which will absorb 102 millions of old coins, (these being at the rate of 90 marks to the pound, the new ones at the rate of 110 marks.) But there remains yet a stock disposable on quantities already withdrawn, undoubtedly, for the total amount of the silver withdrawn from circulation up to September 30, ultimo, foots up—

Amount withdrawn, millions		599
Of which have been transformed into ingots and sold	205	
Used in fabrication of 317 m. of new coins	285	
		490
Remains stock disposable		109
The 113 millions remaining to be fabricated will require		102
Remain		7
Actually withdrawn and for which there will be no use, which are to be added to the presumed circulation, estimated at		688
Together		695

of marks, of which Germany would yet have to get rid. We see that the quantity sold is rather a feeble fraction of that which remains to be sold; it is therefore more than probable that Germany will continue during a great number of years to offer silver in the market. It is useless to add that with this perspective, and in presence of the measures taken in France and Belgium to stop completely the coinage of this metal, it cannot be hoped that it will ascend to its former price for a long time to come. You have the kindness to offer to send to your correspondents such official documents as might be useful to them. I take advantage of it to beg that you forward me the text of the different laws upon the resumption of specie payments, which have been promulgated in the United States since the monetary law of the 12th of February, 1873. It is needless to add that I would examine with much interest the report which the commission over which you preside will publish, if you will be so good as to send it to me.

Receive my anticipated thanks, and accept the assurance of my highest regard.

NORTHOMB,
Consul-General of Belgium at Hamburgh.

GREAT BRITAIN.

A.—Minister Pierrepont to Secretary of State inclosing replies to interrogatories C, of commission.
B.—Replies to interrogatories C.
B 1 and 2.—British mint papers.
B 3 and 4.—Copies of acts 35 and 36 Victoria, chapters 76 and 77, relating to mines, omitted.
C.—Minister Pierrepont to Secretary of State, inclosing replies to interrogatories B, of commission.
D.—Replies to interrogatories B.

A.

LEGATION OF THE UNITED STATES,
London, December 13, 1876.

SIR: Referring to your circular-letter of the 18th of September last, inclosing interrogatories addressed to the foreign representatives of the United States and others upon the subject of the depreciation of silver and the use of a double standard in metallic currency, and cognate matters, I have the honor to state that on the 4th day of October last, the day after the receipt of this circular, I addressed a note to Lord Derby requesting him to obtain answers to such of those interrogatories as were directed to the officers of the mint, from those gentlemen.

On the 21st of November ultimo, I received from Lord Derby the inclosed memorandum, without any signature to show by whom it had been made up. I immediately returned it to his lordship, stating that the value of the information would be greatly increased if it should appear by whom the memorandum had been prepared.

I have now received this memorandum again from Lord Derby, signed by the deputy master of the royal mint, and accordingly inclose the same for the use of the committee which has been appointed by Congress to report upon the subject, together with the documents accompanying the memorandum, which are forwarded in a separate package.

With reference to the interrogatories addressed to me as the representative of the United States in England by the monetary commission, I have to state, that the views of eminent bankers, statisticians, and other authorities are so extremely diverse upon several of the questions propounded that I am not willing to report until after more full information, and that it will require some ten days longer to obtain the data upon which to make satisfactory answers.

I have, &c.,

EDWARDS PIERREPONT.

[Inclosures.]

Memorandum on the interrogatories,
A package of documents accompanying the same.

B.

Memorandum on the interrogatories and requests of the "United States monetary commission, 1876."

1. Please furnish a complete copy of the mining and coinage laws of your country as they exist to-day.

(A.)—*Coinage-laws.*

1. A copy is forwarded herewith of the first annual report of the deputy master of the mint, (1870,) which shows the regulations and general arrangements which govern the coinage of the United Kingdom. (Page 57.) The appendix to this report contains the coinage-act, (33 Vic., cap. 10,) by which all existing laws, royal warrants, &c., were consolidated, and by which the coinage is now alone regulated.

(B.)—*Mining-laws.*

The following work may be mentioned as containing the most recent and authentic information respecting the laws relating to mines and minerals in the United Kingdom:

"The law relating to mines and minerals in Great Britain and Ireland, with a summary of the laws of foreign states," by Arundel Rogers, esq., barrister-at-law, 1864. London: Stevens, Son & Haynes, 28 Bell Yard, Doctors' Commons.

2. Please furnish the statistics of the annual production, movement, and coinage of gold and silver, severally, in your country, going as far back as may be convenient.

2. (A.)—*Annual production of gold and silver in Great Britain and Ireland.*

The following table gives the production of gold from the mines of Great Britain from the year 1862, inclusive:

	Ounces.	Value.		Ounces.	Value.
1862	5,299	£20,390	1868	1,012	£3,522
1863	552	1,747	1869	18	62
1864	2,887	9,991	1870	191	750
1865	1,664	5,824	1874	385	1,540
1866	743	2,656	1875	579	2,105
1867	1,520	5,890			

The following is a statement of the silver obtained from lead, the produce of the United Kingdom, from the year 1853, inclusive:

Year.	Ounces.	Year.	Ounces.	Year.	Ounces.	Year.	Ounces.
1853	496,475	1859	578,275	1865	726,856	1871	761,490
1854	562,659	1860	549,050	1866	636,688	1872	628,920
1855	561,906	1861	570,474	1867	805,394	1873	531,077
1856	614,188	1862	686,123	1868	841,328	1874	509,558
1857	532,866	1863	634,004	1869	831,891	1875	487,358
1858	569,345	1864	641,088	1870	784,562		

(B.)—*Movement of gold and silver.*

The half-yearly returns issued by Messrs. Pixley & Abell, the eminent bullion-brokers, showing the amounts of gold and silver imported into and exported from London from the year 1861, inclusive, are forwarded herewith.

(C.)—*Coinage of gold and silver.*

Copies are forwarded herewith of four parliamentary returns and of the sixth annual report of the deputy master of the mint, which contain (page 40) accounts of all gold, silver, and copper moneys coined at the mint during the last sixty years, namely, from the year 1816, in which an act was passed (56 George III, cap. 68,) providing for a new silver (token) coinage and regulating the currency of gold and silver, to the year 1875, both inclusive.

3. Please state if any changes have occurred in the conditions or facilities affecting the production of either of the precious metals, such as the invention and discovery of improved means or processes.

3. The articles under "gold," "silver," "silver-refining," "silver-assaying," and "pyrites," in "Ure's Dictionary of Arts, Manufactures, and Mines," (edited by Mr. Robert Hunt, F. R. S.,) give all the improved processes for the separation of silver from lead and from coppery and other pyrites.

Phillips's "Gold and Silver," (published by Spon,) may also be mentioned as a comprehensive work on these subjects.

4. Please state what loss of time falls upon the owners of bullion delivered at your mint for coinage.

4. There is no legal period within which coin must be delivered to the owner of bullion sent in to the mint for coinage.

The Bank of England are, in practice, the only "importers" of gold into the mint, and the coinages, therefore, are usually of large quantities of bullion, and extend over many months. A copy of the "Regulations for the coinage of gold bullion at the royal mint" is transmitted herewith.

5. Please state what legislative or governmental measures, if any, are at present contemplated to be effected in your country with reference to the metallic standard of value, or to the mining or coinage of the precious metals.

5. No new measures are at present contemplated with reference to the metallic standard of value nor to the mining or coinage of the precious metals in this country.

Copies of the "coal mines regulation act, 1872," and of the "metalliferous mines regulation act, 1872," subject to which all mining operations are now conducted, are forwarded herewith.

6. Please furnish any other information or documents containing information on the subjects embraced in the above-recited concurrent resolution establishing the United States Monetary Commission.

6. A copy of the report from the select committee of the House of Commons on depreciation of silver, with appendix, is forwarded herewith. This report, presented in July, 1876, contains all the most recent information as to the price and movements of silver and other cognate subjects.

C. W. FREMANTLE,
Deputy Master of the Mint.

ROYAL MINT, LONDON, *November* 10, 1876.

B 1.

Regulations for the coinage of gold bullion at the royal mint.

1. The mint receives gold bullion for coinage on Tuesdays, Thursdays, and Saturdays between 10 and 2 o'clock.

2. In order that the public may not be subjected to unnecessary inconvenience and delay, persons intending to import gold into the mint for coinage will be required to give two days' notice of their intention to the deputy master of the mint.

3. At the time of importation the importer will be required to furnish in duplicate, on forms which will be supplied to him at the mint, a statement of the mark and assay report on each ingot, and the name of the assayer on whose assay he purchased it. The ingots will then be weighed by the proper officer of the mint and a statement of their weights will be added to each copy of the form above mentioned. The certificate at the end of each copy of the form will be signed by the mint officer, and one copy will be given to the importer, the other being retained in the mint.

4. When the report of the resident assayer of the mint has been received a copy of it will be sent to the importer with a statement of the standard value at which the master of the mint is willing to receive the ingots, and if no objection to this report is received within three days, the bullion will be passed into work.

5. If by the assay reports it appears that any of the ingots are brittle, or that they contain iridium, such ingots will be returned to the importer; and if the standard value of the whole of the bullion is less than its gross weight, so that it cannot be brought to standard fineness without refining a portion of it, the master of the mint is empowered, under the coinage act, 1870, sec. 8, to refuse to receive, assay, or coin it.

6. If the assayer of the mint reports any ingot to be of a lower standard than that assigned to it by the importer's assayer, and the importer objects to the mint assayer's report, the ingot will be assayed by the consulting assayer of the mint, and his decision will be final.

7. When the coinage of the bullion is completed notice will be sent to the importer, and the same weight in gold coin as the standard weight at which the ingots were received by the mint will be returned to him without any charge whatever.

C. W. FREMANTLE,
Deputy Master and Comptroller.

ROYAL MINT, *4th April*, 1871.

B 2.

An account of all gold, silver, and copper moneys of the realm, coined at the royal mint, from the 1st day of January, 1816, to the 31st day of December, 1847, specifying the weight, number of pieces, and value of each denomination of money coined yearly, and the total value of the respective coinages in each year, and in the whole period.

GOLD COINAGE.

Date.	Double sovereigns.			Sovereigns.			Half-sovereigns.			Total value of the gold coinage during the year.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	
	Lbs.		£ *s. d.*	*Lbs. oz. dwt. gr.*		£ *s. d.*	*Lbs. oz. dwt. gr.*		£ *s. d.*	£ *s. d.*
1816				69,240 0 0 0	3,233,239	3,235,239 0 0	22,260 0 0 0	2,020,197	1,040,698 10 0	4,275,337 10 0
1817				50,235 0 0 0	2,347,230	2,347,230 7 6	11,025 0 0 0	1,030,286	515,143 2 6	2,862,373 10 0
1818				76 6 0 0	3,574	3,574 9 3				3,574 9 3
1819				19,946 4 8 23	931,994	931,994 3 4½	375 0 0 0	35,043	17,521 17 6	949,516 0 10½
1820				201,286 6 13 9	9,405,114	9,405,114 6 3½	2,475 0 0 0	231,288	115,644 7 6	9,520,758 13 9½
1821				114,645 0 0 0	5,356,787	5,356,787 12 6				5,356,787 12 6
1822										
1823	660	15,419	30,838 10 0	13,200 0 0 0	616,770	616,770 0 0	2,400 0 0 0	224,280	112,140 0 0	759,748 10 0
1824	30	700	1,401 15 0	80,640 0 0 0	3,767,904	3,767,904 0 0	6,330 0 0 0	591,538	295,769 5 0	4,065,975 0 0
1825				89,895 0 0 0	4,200,343	4,200,343 17 6	8,145 0 0 0	761,150	380,575 2 6	4,580,919 0 0
1826				122,505 0 0 0	5,724,046	5,724,046 2 6	3,680 0 0 0	344,830	172,415 5 0	5,896,461 7 6
1827				48,510 0 0 0	2,266,629	2,266,629 15 0	5,265 0 0 0	492,014	246,007 2 6	2,512,636 17 6
1828				8,265 0 0 0	386,182	386,182 2 6	13,320 0 0 0	1,244,754	622,377 0 0	1,008,559 2 6
1829				52,320 0 0 0	2,444,652	2,444,652 0 0	45 0 0 0	4,205	2,102 12 6	2,446,754 12 6
1830				51,105 0 0 0	2,387,881	2,387,881 2 6				2,387,881 2 6
1831				12,810 0 0 0	598,547	598,547 5 0				598,547 5 0
1832				79,980 0 0 0	3,737,065	3,737,065 10 0				3,737,065 10 0
1833				26,223 0 0 0	1,225,269	1,225,269 13 6				1,225,269 13 6
1834							1,432 10 2 12	133,899	66,949 12 5	66,949 12 5
1835				15,482 11 9 6	723,441	723,441 1 8	8,267 0 9 4	772,554	386,277 7 2	1,109,718 8 10
1836				36,600 2 7 8	1,714,349	1,714,349 9 3	1,571 7 2 23	146,865	73,432 16 2	1,787,782 5 5
1837				25,104 0 1 8	1,172,984	1,172,984 13 2	1,714 4 7 20	160,207	80,103 15 0	1,253,088 8 2
1838				58,185 0 0 0	2,718,694	2,718,694 2 6	2,925 0 0 0	273,341	136,670 12 6	2,855,364 15 0
1839				10,780 0 0 0	503,695	503,695 10 0	13 2 0 0	1,250	615 4 3	504,310 14 3
1840										
1841				2,655 0 0 0	124,654	124,654 17 6	5,445 0 0 0	508,835	254,417 12 6	378,472 10 0
1842				104,127 10 12 14	4,865,375	4,865,375 9 3	23,791 10 15 14	2,223,352	1,111,676 8 11	5,977,051 18 2
1843				128,025 0 0 0	5,981,968	5,981,968 2 6	13,395 0 0 0	1,251,762	625,881 7 6	6,607,849 10 0
1844				64,215 0 0 0	3,000,445	3,000,445 17 6	12,060 0 0 0	1,127,007	563,503 10 0	3,563,949 7 6
1845				81,345 0 0 0	3,800,845	3,800,845 2 6	9,497 4 2 14	887,526	443,763 8 0½	4,244,608 10 6½
1846				81,390 0 0 0	3,802,947	3,802,947 15 0	11,385 0 0 0	1,063,928	531,964 2 6	4,334,911 17 6
1847				99,885 0 0 0	4,667,126	4,667,126 12 6	10,515 0 0 0	982,626	491,313 7 6	5,158,440 0 0
Total	690	16,119	32,240 5 0	1,743,767 5 12 20	81,711,149	81,711,160 0 9½	177,343 3 0 15	16,572,717	8,286,363 0 5½	90,029,763 15 3

B 2.

An account of all gold, silver, and copper moneys of the realm, coined at the royal mint, &c.—Continued.

SILVER COINAGE.

Date.	Crowns.			Half-crowns.			Shillings.			Sixpences.			Groats.		
	Weight.	Number of pieces	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Wt	Number of pieces.	Value.
	Lbs. oz. dwt		£ *s. d*	*Lbs oz dwt*		£ *s. d*	*Lbs.*		£.	*Lbs. oz. dwt*		£ *s. d*	*Lbs.*		£. s. d
1816				34, 560 0 0	912, 384	114, 048 0 0	396, 000	26, 139, 960	1, 306, 998	116, 400 0 0	15, 364, 800	384, 120 0 0			
1817				305, 540 0 0	8, 052, 656	1, 011, 582 0 0	348, 960	24, 031, 368	1, 451, 568	82, 740 0 0	10, 921, 680	273, 042 0 0			
1818	11, 760 0 0	155, 2	33, 808 0 0	110, 040 0 0	2, 905, 056	363, 132 0 0	20, 340	1, 342, 44	67, 122	32, 460 0 0	4, 284, 720	107, 118 0 0			
1819	51, 780 0 0	683, 436	170, 874 0 0	181, 440 0 0	4, 790, 016	598, 752 0 0	115, 080	7, 565, 28	379, 764	37, 200 0 0	4, 742, 400	117, 810 0 0			
1820	33, 960 0 0	448, 27	112, 068 0 0	90, 720 0 0	2, 396, 592	299, 574 0 0	120, 840	7, 975, 440	398, 772	11, 280 0 0	1, 488, 960	37, 224 0 0			
1821	33, 180 0 0	437, 976	109, 494 0 0	54, 360 0 0	1, 435, 104	179, 388 0 0	37, 320	2, 463, 120	123, 156	6, 540 0 0	863, 280	21, 582 0 0			
1822	9, 464 4 4	124, 927	31, 232 7 1												
1823				75, 900 0 0	2, 003, 760	250, 470 0 0	40, 50	693, 000	34, 650						
1824				17, 640 0 0	465, 696	58, 212 0 0	63, 000	4, 158, 000	207, 900	4, 800 0 0	633, 600	15, 840 0 0			
1825				85, 560 0 0	2, 258, 784	282, 348 0 0	37, 250	2, 459, 166	122, 958	3, 660 0 0	483, 120	12, 078 0 0			
1826				84, 920 0 0	2, 189, 088	273, 636 0 0	96, 240	6, 351, 840	317, 592	5, 280 0 0	689, 040	17, 226 0 0			
1827							8, 700	574, 200	28, 710	1, 260 0 0	166, 320	4, 158 0 0			
1828				1, 880 9 12	49, 890	6, 236 7 1	2, 880	190, 080	9, 504	120 0 0	15, 840	396 0 0			
1829				19, 260 0 0	508, 464	63, 558 0 0	10, 440	689, 040	34, 452	3, 060 0 0	403, 920	10, 098 0 0			
1830															
1831										10, 152 11 10	1, 340, 195	33, 504 17 8			
1832															
1833															
1834				37, 620 0 0	993, 168	124, 146 0 0	48, 840	3, 223, 440	161, 172	44, 640 0 0	5, 892, 480	147, 312 0 0			
1835				10, 680 0 0	281, 952	35, 244 0 0	21, 960	1, 449, 360	72, 468	11, 760 0 0	1, 552, 320	38, 808 0 0			
1836				60, 180 0 0	1, 588, 752	198, 594 0 0	54, 060	3, 567, 960	178, 398	15, 060 0 0	1, 987, 920	49, 698 0 0	31, 480	4, 251, 840	70, 864
1837				6, 840 0 0	180, 576	22, 572 0 0	7, 260	479, 160	23, 958	3, 840 0 0	506, 880	12, 672 0 0	4, 860	962, 280	16, 038
1838							29, 640	1, 956, 240	97, 812	12, 180 0 0	1, 607, 760	40, 194 0 0	19, 830	2, 150, 280	35, 838
1839							25, 860	5, 666, 760	283, 338	25, 080 0 0	3, 310, 560	82, 764 0 0	7, 380	1, 461, 240	24, 354
1840				14, 640 0 0	386, 496	48, 312 0 0	24, 840	1, 639, 440	81, 972	15, 000 0 0	2, 098, 800	52, 470 0 0	7, 560	1, 496, 880	29, 948
1841				1, 620 0 0	42, 768	5, 346 0 0	13, 260	875, 160	43, 758	10, 500 0 0	1, 386, 000	34, 650 0 0	1, 740	344, 520	5, 742
1842				18, 420 0 0	486, 288	60, 786 0 0	31, 740	2, 094, 840	104, 742	4, 260 0 0	601, 920	15, 048 0 0	3, 660	721, 680	12, 078
1843				17, 220 0 0	454, 608	56, 826 0 0	23, 220	1, 465, 320	73, 260	23, 910 0 0	3, 160, 080	79, 002 0 0	9, 180	1, 817, 640	30, 294
1844	7, 140 0 0	94, 248	23, 562 0 0	75, 720 0 0	1, 999, 008	249, 876 0 0	67, 680	4, 466, 880	223, 344	30, 120 0 0	3, 975, 840	99, 396 0 0	4, 32	855, 360	14, 256
1845	12, 060 0 0	159, 192	39, 798 0 0	84, 540 0 0	2, 231, 856	278, 982 0 0	61, 860	4, 082, 760	204, 138	28, 140 0 0	3, 714, 480	92, 862 0 0	5, 520	914, 760	15, 246
1846	10, 680 0 0	140, 976	35, 244 0 0	58, 320 0 0	1, 539, 648	192, 456 0 0	61, 080	4, 031, 280	201, 564	32, 340 0 0	4, 268, 880	106, 722 0 0	6, 900	1, 366, 200	22, 770
1847	5, 700 0 0	75, 240	18, 810 0 0	13, 920 0 0	367, 488	45, 936 0 0	12, 840	847, 440	42, 372	4, 440 0 0	586, 080	14, 652 0 0	1, 140	225, 720	3, 762
Total	175, 724 4 4	2, 319, 561	579, 890 7 1	1, 460, 609 9 12	38, 560, 09	4, 820, 012 7 1	1, 810, 74	19, 508, 840	975, 442	575, 892 11 10	76, 017, 873	1, 900, 446 17 8	83, 700	16, 574, 200	276, 210

An account of all gold, silver, and copper moneys of the realm, coined at the royal mint, &c.—Continued.

SILVER COINAGE—Continued.

Date.	Fourpences.			Threepences.			Twopences.			Pence.			Total value of silver coinage during the year.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	
	Lbs. oz. dwt.		£ s. d.	*Lbs. oz. dwt.*		£ s. d.	*Lbs. oz. dwt.*		£ s. d.	*Lbs. oz. dwt.*		£ s. d.	£ s. d.
1816	8 0 0	1,584	26 8 0	6 0 0	1,584	19 16 0	6 0 0	2,376	19 16 0	6 0 0	4,752	19 16 0	1,805,251 16 0
1817	7 0 0	1,386	23 2 0	6 0 0	1,584	19 16 0	6 0 0	2,376	19 16 0	13 0 0	10,296	42 18 0	2,436,297 12 0
1818	6 0 0	1,188	19 16 0	6 0 0	1,584	19 16 0	6 0 0	2,376	19 16 0	12 0 0	9,504	39 12 0	546,279 0 0
1819	4 0 0	792	13 4 0	5 0 0	1,320	16 10 0	5 0 0	1,980	16 10 0	8 0 0	6,336	26 8 0	1,267,272 12 0
1820	5 0 0	990	16 10 0	5 0 0	1,320	16 10 0	4 0 0	1,584	13 4 0	10 0 0	7,920	33 0 0	847,717 4 0
1821	5 0 0	990	16 10 0	5 0 0	1,320	16 10 0	5 0 0	1,980	16 10 0	5 0 0	3,960	16 10 0	433,626 0 0
1822	15 0 0	2,970	49 10 0	15 0 0	3,960	49 10 0	15 0 0	5,940	49 10 0	15 0 0	11,880	49 10 0	34,450 7 1
1823	10 0 0	1,980	33 0 0	10 0 0	2,640	33 0 0	10 0 0	3,960	33 0 0	16 0 0	12,672	52 16 0	285,271 16 0
1824	8 0 0	1,584	26 8 0	8 0 0	2,112	26 8 0	8 0 0	3,168	26 8 0	12 0 0	9,504	39 12 0	282,950 16 0
1825	13 0 0	2,376	39 12 0	13 0 0	3,432	42 18 0	10 0 0	3,960	33 0 0	11 0 0	8,712	36 6 0	417,535 16 0
1826	13 0 0	2,376	39 12 0	13 0 0	3,432	42 18 0	10 0 0	3,960	33 0 0	11 0 0	8,712	36 6 0	608,605 16 0
1827	14 0 0	2,772	46 4 0	12 0 0	3,168	39 12 0	10 0 0	3,960	33 0 0	10 0 0	7,920	33 0 0	33,019 16 0
1828	14 0 0	2,772	46 4 0	12 0 0	3,168	39 12 0	10 0 0	3,960	33 0 0	10 0 0	7,920	33 0 0	16,288 3 1
1829	14 0 0	2,772	46 4 0	12 0 0	3,168	39 12 0	10 0 0	3,960	33 0 0	10 0 0	7,920	33 0 0	108,259 16 0
1830	14 0 0	2,772	46 4 0	12 0 0	3,168	39 12 0	10 0 0	3,960	33 0 0	10 0 0	7,920	33 0 0	151 16 0
1831	18 0 0	3,564	59 8 0	15 0 0	3,960	49 10 0	12 0 0	4,752	39 12 0	13 0 0	10,296	42 18 0	33,696 5 8
1832	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	9 0 0	3,564	29 14 0	11 0 0	8,712	36 6 0	145 4 0
1833	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	9 0 0	3,564	29 14 0	11 0 0	8,712	36 6 0	155 4 0
1834	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	9 0 0	3,564	29 14 0	11 0 0	8,712	36 6 0	472,775 4 0
1835	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	9 0 0	3,564	29 14 0	11 0 0	8,712	36 6 0	116,685 4 0
1836	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	9 0 0	3,564	29 14 0	11 0 0	8,712	36 6 0	497,749 4 0
1837	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	9 0 0	3,564	29 14 0	11 0 0	8,712	33 6 0	75,385 4 0
1838	21 0 0	4,158	69 6 0	16 4 0	4,312	53 18 0	11 4 0	4,488	37 8 0	11 4 0	8,976	37 8 0	174,042 0 0
1839	20 10 0	4,125	68 15 0	16 6 0	4,356	54 9 0	11 4 0	4,488	37 8 0	11 4 0	8,976	37 8 0	390,654 0 0
1840	20 10 0	4,125	68 15 0	16 6 0	4,356	54 9 0	11 4 0	4,488	37 8 0	11 4 0	8,976	37 8 0	207,960 0 0
1841	13 0 0	2,574	42 18 0	11 0 0	2,904	36 6 0	10 0 0	3,960	33 0 0	10 0 0	7,920	33 0 0	89,641 4 0
1842	20 10 0	4,125	68 15 0	16 6 0	4,356	54 9 0	11 4 0	4,488	37 8 0	11 4 0	8,976	37 8 0	192,852 0 0
1843	21 0 0	4,158	69 6 0	17 0 0	4,488	56 2 0	12 0 0	4,752	39 12 0	10 0 0	7,920	33 0 0	239,560 0 0
1844	21 0 0	4,158	69 6 0	17 0 0	4,488	56 2 0	12 0 0	4,752	39 12 0	10 0 0	7,920	33 0 0	610,632 0 0
1845	21 0 0	4,158	69 6 0	1,997 0 0	1,319,208	16,490 2 0	12 0 0	4,752	39 12 0	10 0 0	7,920	33 0 0	617,658 0 0
1846	21 0 0	4,158	69 6 0	197 0 0	52,008	650 2 0	12 0 0	4,752	39 12 0	10 0 0	7,920	33 0 0	550,548 0 0
1847	21 0 0	4,158	69 6 0	17 0 0	4,488	56 2 0	12 0 0	4,752	39 12 0	10 0 0	7,920	33 0 0	125,730 0 0
Total	445 6 0	88,209	1,470 3 0	5,513 10 0	1,461,303	18,291 7 0	398 4 0	121,386	1,010 18 0	343 4 0	271,920	1,133 0 0	13,575,906 19 10

B 2.

An account of all gold, silver, and copper moneys of the realm, coined at the royal mint, &c.—Continued.

COPPER COINAGE.

Date.	Pence.			Halfpence.			Farthings.			Half farthings.			Total value of the copper coinage during the year.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	
	Tons. cwt.		£ s. d.	*Tons. cwt.*		£ s. d.	*Tons. cwt.*		£ s. d.	*Tons. cwt.*		£ s. d.	£ s. d.
1816													
1817													
1818													
1819													
1820													
1821							12 10	2,688,000	2,800 0 0				2,800 0 0
1822	118 0	6,872,320	26,432 0 0	48 0	5,591,040	10,752 0 0	27 11	5,924,352	6,171 4 0				43,355 4 0
1823	83 0	4,834,920	18,592 0 0	51 0	5,940,480	11,424 0 0	11 0	2,365,440	2,464 0 0				32,480 0 0
1824													
1825	20 0	1,075,200	4,480 0 0	2 0	215,040	448 0 0	20 0	4,300,800	4,480 0 0				9,408 0 0
1826	110 0	5,913,600	24,640 0 0	84 0	9,031,680	18,816 0 0	31 0	6,666,240	6,944 0 0				50,400 0 0
1827	27 0	1,451,520	6,048 0 0	50 0	5,376,000	11,200 0 0	11 0	2,365,440	2,464 0 0				19,712 0 0
1828							11 0	2,365,440	2,464 0 0				2,464 0 0
1829							7 0	1,505,280	1,568 0 0				1,568 0 0
1830							11 0	2,365,440	2,464 0 0				2,464 0 0
1831	14 0	752,640	3,136 0 0	6 10	698,880	1,456 0 0	12 10	2,688,000	2,800 0 0				7,392 0 0
1832	1 0	53,760	224 0 0	1 0	107,520	224 0 0							448 0 0
1833													
1834	3 0	161,280	672 0 0	2 0	215,040	448 0 0	9 0	1,935,360	2,016 0 0				3,136 0 0
1835	2 0	107,520	448 0 0	2 0	215,040	448 0 0	8 0	1,720,320	1,792 0 0				2,688 0 0
1836	1 0	53,760	224 0 0	1 0	107,520	224 0 0	6 0	1,290,240	1,344 0 0				1,792 0 0
1837	3 5	174,720	728 0 0	3 5	349,440	728 0 0	14 0	3,010,560	3,136 0 0				4,592 0 0
1838				4 5	456,960	952 0 0	2 15	591,360	616 0 0				1,568 0 0
1839				2 10	268,800	560 0 0	20 0	4,300,800	4,480 0 0				5,040 0 0
1840							14 0	3,010,560	3,136 0 0				3,136 0 0
1841	17 0	913,920	3,808 0 0	10 0	1,075,200	2,240 0 0	8 0	1,720,320	1,792 0 0				7,840 0 0
1842							6 0	1,290,240	1,344 0 0				1,344 0 0
1843	9 0	483,840	2,016 0 0	9 0	967,680	2,016 0 0	19 0	4,085,760	4,256 0 0	8 0	3,440,640	1,792 0 0	10,080 0 0
1844	4 0	215,040	896 0 0	10 0	1,075,200	2,240 0 0	2 0	430,080	448 0 0	15 0	6,451,200	3,360 0 0	6,944 0 0
1845	6 0	322,560	1,344 0 0	10 0	1,075,200	2,240 0 0	15 0	3,225,600	3,360 0 0				6,944 0 0
1846	9 0	483,840	2,016 0 0	8 0	860,160	1,792 0 0	12 0	2,580,480	2,688 0 0				6,496 0 0
1847	8 0	430,080	1,792 0 0	7 0	752,640	1,568 0 0	18 0	3,870,720	4,032 0 0	7 0	3,010,560	1,568 0 0	8,960 0 0
Total	435 5	24,299,520	97,496 0 0	311 10	34,379,520	69,776 0 0	308 6	66,296,832	69,059 4 0	30 0	12,902,400	6,720 0 0	243,051 4 0

MINT OFFICE, *August* 2, 1848.

JAS. W. MORRISON, *Deputy Master.*

Account of all gold, silver, and copper moneys of the realm, coined at the mint for each year from the 1st day of January, 1846, to the 31st day of December, 1855, showing also the real cost or value of the metal, and the amount represented by the coin.

GOLD COINAGE.

Date.	Sovereigns.							Half-sovereigns.							Total value.		
	Weight.				Number of pieces.	Value.			Weight.				Number of pieces.	Value.					
	Lbs.	*oz.*	*dwt.*	*grs.*		£	*s.*	*d.*	*Lbs.*	*oz.*	*dwt.*	*grs.*		£	*s.*	*d.*	£	*s.*	*d.*
1846	81,390	0	0	0	3,802,947	3,802,947	15	0	11,385	0	0	0	1,063,928	531,964	2	6	4,334,911	17	6
1847	99,885	0	0	0	4,667,126	4,667,126	12	6	10,515	0	0	0	982,626	491,313	7	6	5,158,440	0	0
1848	48,083	6	0	0	2,246,701	2,246,701	10	9	4,393	9	0	0	410,595	205,297	19	4	2,451,999	10	1
1849	37,568	8	15	12	1,755,399	1,755,398	19	4	9,043	5	12	13	845,112	422,556	1	9	2,177,955	1	1
1850	30,006	2	5	14	1,402,039	1,402,039	4	6	1,921	10	0	0	179,595	89,797	13	3	1,491,836	17	9
1851	85,898	10	7	2	4,013,624	4,013,624	7	4	8,277	14	6	6	773,573	386,786	17	5	4,400,411	4	9
1852	172,358	1	18	13	8,053,435	8,053,435	1	1	14,742	4	0	8	1,377,671	688,835	11	10	8,742,270	12	11
Total	555,190	5	6	17	25,941,271	25,941,273	10	6	60,279	3	19	3	5,633,100	2,816,551	13	7	28,757,825	4	1
	Or ounces.								*Or ounces.*										
1846–'52	6,662,285.335				25,941,271	25,941,273	10	6	723,351.956				5,633,100	2,816,551	13	7	28,757,825	4	1
1853	2,721,795.997				10,597,993	10,597,993	2	11	347,839.011				2,708,796	1,354,398	3	0	11,952,391	5	11
1854	921,890.478				3,589,611	3,589,611	0	11	144,480.840				1,125,144	562,572	5	5	4,152,183	6	4
1855	2,169,754.728				8,448,482	8,448,482	9	4	143,866.710				1,120,362	560,181	0	0	9,008,663	9	4
Total	12,475,726.538				48,577,357	48,577,360	3	8	1,359,538.517				10,587,402	5,293,703	2	0	53,871,063	5	8

Account of all gold, copper, and silver coinage of the realm, &c.—Continued.

SILVER COINAGE.*

Date.	Crowns.			Half-crowns.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Lbs. oz. dwt. gr.		£ s. d.	*Lbs. oz. dwt. gr.*		£ s. d.
1846	10,680 0 0 0	140,976	35,244 0 0	58,320 0 0 0	1,539,648	192,456 0 0
1847	5,700 0 0 0	75,240	18,810 0 0	13,920 0 0 0	367,488	45,936 0 0
1848	.....	.....	.....	3,480 0 0 0	91,872	11,484 0 0
1849	.....	.....	.....	9,900 0 0 0	261,360	32,670 0 0
1850	.....	.....	.....	18,300 0 0 0	483,120	60,390 0 0
1851	35 4 0 0	466	116 12 0	56 7 0 0	1,493	186 14 6
1852	.....	.....	.....	.....	.....	.....
Total	16,415 4 0 0	216,682	54,170 12 0	103,976 7 0 0	2,744,981	343,122 14 6
	Or ounces.			*Or ounces.*		
1846–'52	196,984.000	216,682	54,170 12 0	1,247,719.000	2,744,981	343,122 14 6
1853	.....	.....	.....	.....	.....	.....
1854	.....	.....	.....	.....	.....	.....
1855	.....	.....	.....	.....	.....	.....
Total	196,984.000	216,682	54,170 12 0	1,247,719.000	2,744,981	343,122 14 6

Date.	Florins.			Shillings.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Lbs. oz. dwt. gr.		£ s. d.	*Lbs. oz. dwt. gr.*		£ s. d.
1846	.....	.....	.....	61,080 0 0 0	4,031,280	201,564 0 0
1847	.....	.....	.....	12,840 0 0 0	847,440	42,372 0 0
1848	.....	.....	.....	2,940 0 0 0	194,040	9,702 0 0
1849	12,540 0 0 0	413,820	41,382 0 0	9,780 0 0 0	645,480	32,274 0 0
1850	.....	.....	.....	10,380 0 0 0	685,030	34,254 0 0
1851	46 8 0 0	1,540	154 0 0	7,122 3 12 0	470,071	23,503 11 9
1852	30,744 0 2 0	1,014,552	101,455 4 6	19,796 7 1 0	1,306,574	65,328 14 9
Total	43,330 8 2 0	1,429,912	142,991 4 6	123,938 10 13 0	8,179,965	408,998 6 6
	Or ounces.			*Or ounces.*		
1846–'52	519,968.100	1,429,912	142,991 4 6	1,487,266.650	8,179,965	408,998 6 6
1853	1,425,436.550	3,919,950	391,995 1 0	772,852.400	4,256,188	212,809 8 2
1854	200,150.200	550,413	55,041 6 1	100,439.000	552,414	27,620 14 6
1855	302,188.000	831,017	83,101 14 0	248,818.000	1,368,499	68,424 19 0
Total	2,447,742.850	6,731,292	673,129 5 7	2,610,376.050	14,357,066	717,853 8 2

* See note in reference to silver coinage, on p. 214.

Account of all gold, silver, and copper coinage of the realm, &c.—Continued.

SILVER COINAGE—Continued.

Date.	Sixpences.			Groats.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Lbs. oz. dwt. gr.		£ s. d.	*Lbs. oz. dwt. gr.*		£ s. d.
1846	32,340 0 0 0	4,268,880	106,722 0 0	6,900 0 0 0	1,366,200	22,770 0 0
1847	4,440 0 0 0	586,080	14,652 0 0	1,140 0 0 0	225,720	3,762 0 0
1848	.....	.....	.....	3,600 0 0 0	712,800	11,880 0 0
1849	1,560 0 0 0	205,920	5,148 0 0	1,920 0 0 0	380,160	6,336 0 0
1850	3,780 0 0 0	498,960	12,474 0 0	3,000 0 0 0	594,000	9,900 0 0
1851	17,334 1 16 0	2,288,107	57,202 13 11	158 1 0 0	31,300	521 13 6
1852	6,852 11 3 0	904,586	22,614 13 4	.....	.....	.....
Total	66,307 0 19 0	8,752,533	218,813 7 3	16,718 1 0 0	3,310,180	55,169 13 6
	Or ounces.			*Or ounces.*		
1846–'52	795,684.950	8,752,533	218,813 7 3	200,617.000	3,310,180	55,169 13 6
1853	348,902.750	3,837,930	95,948 5 1	720.000	11,880	198 0 0
1854	76,374.200	840,116	21,002 18 1	66,461.450	1,096,613	18,276 17 11
1855	102,644.600	1,129,084	28,227 2 0	39,154.000	646,041	10,767 7 0
Total	1,323,605.900	14,559,663	363,991 12 5	306,952.450	5,064,714	84,411 18 5

Date.	Fourpences.			Threepences.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Lbs. oz. dwt. gr.		£ s. d.	*Lbs. oz. dwt. gr.*		£ s. d.
1846	21 0 0 0	4,158	69 6 0	197 0 0 0	52,008	650 2 0
1847	21 0 0 0	4,158	69 6 0	17 0 0 0	4,488	56 2 0
1848	21 0 0 0	4,158	69 6 0	17 0 0 0	4,488	56 2 0
1849	21 0 0 0	4,158	69 6 0	497 0 0 0	131,208	1,640 2 0
1850	21 0 0 0	4,158	69 6 0	3,617 0 0 0	954,888	11,936 2 0
1851	21 0 0 0	4,158	69 6 0	1,831 7 14 0	483,553	6,044 8 4
1852	21 0 0 0	4,158	69 6 0	17 0 0 0	4,488	56 2 0
Total	147 0 0 0	29,106	485 2 0	6,193 7 14 0	1,635,121	20,439 0 4
	Or ounces.			*Or ounces.*		
1846–'52	1,764.000	29,106	485 2 0	74,323.700	1,635,121	20,439 0 4
1853	252.000	4,158	69 6 0	1,644.000	36,168	452 2 0
1854	252.000	4,158	69 6 0	66,897.000	1,471,734	18,396 13 6
1855	252.000	4,158	69 6 0	17,629.000	387,838	4,847 19 6
Total	2,520.000	41,580	693 0 0	160,493.700	3,530,861	44,135 15 4

Account of all gold, silver, and copper coinage of the realm, &c.—Continued.

SILVER COINAGE—Continued.

Date.	Twopences.			Pence.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Lbs. oz. dwt. gr.		£ s. d.	*Lbs. oz. dwt. gr.*		£ s. d.
1846	12 0 0 0	4,752	39 12 0	10 0 0 0	7,920	33 0 0
1847	12 0 0 0	4,752	39 12 0	10 0 0 0	7,920	33 0 0
1848	672 0 0 0	266,112	2,217 12 0	10 0 0 0	7,920	33 0 0
1849	12 0 0 0	4,752	39 12 0	10 0 0 0	7,920	33 0 0
1850	12 0 0 0	4,752	39 12 0	10 0 0 0	7,920	33 0 0
1851	12 0 0 0	4,752	39 12 0	9 0 0 0	7,128	29 14 0
1852	12 0 0 0	4,752	39 12 0	10 0 0 0	7,920	33 0 0
Total	744 0 0 0	294,624	2,455 4 0	69 0 0 0	54,648	227 14 0
	Or ounces.			*Or ounces.*		
1846–'52	8,928.000	294,624	2,455 4 0	828.000	54,648	227 14 0
1853	144.000	4,752	39 12 0	120.000	7,920	33 0 0
1854	144.000	4,752	39 12 0	120.000	7,920	33 0 0
1855	144.000	4,752	39 12 0	120.000	7,920	33 0 0
Total	9,360.000	308,880	2,574 0 0	1,188.000	78,408	326 14 0

Date.	Total value of silver coined.	Real cost or value of metal.
	£ s. d.	£ s. d.
1846	559,548 0 0	508,923 11 5
1847	125,730 0 0	116,403 5 8
1848	35,442 0 0	36,813 15 6
1849	119,592 0 0	133,353 2 7
1850	129,096 0 0	141,852 14 9
1851	87,868 6 0	97,389 4 10
1852	189,596 12 7	195,471 17 3
Total	1,246,872 18 7	1,230,207 12 0
1846–'52	1,246,872 18 7	1,230,207 12 0
1853	701,544 14 3	657,611 7 9
1854	140,480 8 1	134,330 2 1
1855	195,510 19 6	192,002 13 11
Total	2,284,409 9 5	2,214,151 15 9

Account of all gold, silver, and copper coinage of the realm, &c.—Continued.

COPPER COINAGE.

Date.	Pence.			Halfpence.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Tns.cwt.qrs.lbs.oz.		£ s. d.	*Tns.cwt.qrs.lbs.oz.*		£ s. d.
1846	9 0 0 0 0	483,840	2,016 0 0	8 0 0 0 0	860,160	1,792 0 0
1847	8 0 0 0 0	430,080	1,792 0 0	7 0 0 0 0	752,640	1,568 0 0
1848	3 0 0 0 0	161,280	672 0 0	3 0 0 0 0	322,560	672 0 0
1849	5 0 0 0 0	268,800	1,120 0 0	.....	.....	.....
1850	.....	.....	.....	.....	.....	.....
1851	5 0 0 0 0	268,800	1,120 0 0	2 0 0 0 0	215,040	448 0 0
1852	4 18 0 0 0	263,424	1,097 12 0	5 18 2 0 0	637,056	1,327 4 0
Total ...	34 18 0 0 0	1,876,224	7,817 12 0	25 18 2 0 0	2,787,456	5,807 4 0
1846-'52 ...	34 18 0 0 0	1,876,224	7,817 12 0	25 18 2 0 0	2,787,456	5,807 4 0
1853	19 0 0 0 0	1,021,440	4,256 0 0	14 10 0 0 0	1,559,040	3,248 0 0
1854	125 0 0 0 0	6,720,000	28,000 0 0	114 18 0 0 0	12,354,048	25,737 12 0
1855	98 2 0 0 0	5,273,856	21,974 8 0	69 6 3 13 15	7,455,837	15,532 19 10½
	277 0 0 0 0	14,891,520	62,048 0 0	224 13 1 13 15	24,156,381	50,325 15 10½

Date.	Farthings.			Half-farthings.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Tns.cwt.qrs.lbs.oz.		£ s. d.	*Tns.cwt.qrs.lbs.oz.*		£ s. d.
1846	12 0 0 0 0	2,580,480	2,688 0 0	.....	.....	.....
1847	18 0 0 0 0	3,870,720	4,032 0 0	7 0 0 0 0	3,010,560	1,568 0 0
1848	6 0 0 0 0	1,290,240	1,344 0 0	.....	.....	.....
1849	3 0 0 0 0	645,120	672 0 0	.....	.....	.....
1850	2 0 0 0 0	430,080	448 0 0	.....	.....	.....
1851	9 0 0 0 0	1,935,360	2,016 0 0	.....	.....	.....
1852	3 16 2 0 0	822,528	856 16 0	2 6 0 0 0	989,184	515 4 0
Total ...	53 16 2 0 0	11,574,528	12,056 16 0	9 6 0 0 0	3,999,744	2,083 4 0
1846-'52 ...	53 16 2 0 0	11,574,528	12,056 16 0	9 6 0 0 0	3,999,744	2,083 4 0
1853	4 15 2 16 14	1,028,436	1,071 5 9	2 4 1 19 8	955,296	497 11 0
1854	30 5 0 0 0	6,504,960	6,776 0 0	1 11 2 0 0	677,376	352 16 0
1855	16 0 0 0 0	3,440,640	3,584 0 0	.....	.....	.....
Total ...	104 17 0 16 14	22,548,564	23,488 1 9	13 1 3 19 8	5,632,416	2,933 11 0

Date.	Total value of copper coined.	Purchase-value of copper.
	£ s. d.	£ s. d.
1846	6,496 0 0	2,402 0 11
1847	8,960 0 0	3,313 3 4
1848	2,688 0 0	993 19 0
1849	1,792 0 0	662 12 8
1850	448 0 0	165 13 2
1851	3,584 0 0	1,325 5 4
1852	3,796 16 0	1,403 19 1
Total	27,764 16 0	10,266 13 6
1846-'52	27,764 16 0	10,266 13 6
1853	9,072 16 9	4,831 3 1
1854	60,866 8 0	32,192 10 11
1855	41,091 7 10½	22,013 4 11
Total	138,795 8 7½	69,303 12 5

NOTE IN REFERENCE TO SILVER COINAGE.

In the silver returned above as purchased and coined, the following proportions of worn silver coin are included, purchased at its nominal value for recoinage from the Bank of England.

Worn silver coinage purchased for recoinage.

Date.	Weight.	Nominal value.	Mint value at 5-6 per ounce	Loss by recoinage.
	Oz.	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
1846	56,510.850	18,000 0 0	15,540 9 8	2,459 10 4
1847	45,347.750	14,500 0 0	12,470 12 7	2,029 7 5
1848	175,437.200	54,750 0 0	48,245 4 4	6,504 15 8
1849	443,454.050	135,100 0 0	121,949 17 4	13,150 2 8
1850	496,597.350	150,000 0 0	136,564 5 2	13,435 14 10
1851	321,442.550	100,000 0 0	88,396 14 1	11,603 5 11
1852	153,907.800	48,200 0 0	42,324 12 11	5,875 7 1
1853	69,893.150	22,000 0 0	19,220 12 4	2,779 7 8
1854	50,869.610	16,000 0 0	13,989 2 10	2,010 17 2
1855	199,564.903	63,000 0 0	54,860 6 11	8,119 13 1
Total	2,013,025.213	621,550 0 0	553,581 18 2	67,968 1 10

THOMAS GRAHAM,
Master of the Mint.

ROYAL MINT, *July* 14, 1856.

Account of all gold, silver, and copper moneys of the realm coined at the mint from the 1st day of January, 1854, to the 31st day of December, 1863; showing also the real cost or value of the metal and the amount represented by the coin.

GOLD COINAGE.

Date.	Sovereigns.			Half-sovereigns.			Total value.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	
	Oz.		£ *s. d.*	*Oz.*		£ *s. d.*	£ *s. d.*
1854	921, 890. 478	3, 589, 611	3, 589, 611 0 11	144, 450. 840	1, 125, 144	562, 572 5 5	4, 152, 183 6 4
1855	2, 169, 754. 728	8, 448, 482	8, 448, 482 9 4	143, 866. 710	1, 120, 362	560, 181 0 0	9, 008, 663 9 4
1856	1, 234, 326. 804	4, 806, 160	4, 806, 159 19 9	307, 147. 348	2, 391, 909	1, 195, 954 19 9	6, 002, 114 19 6
1857	1, 154, 606. 290	4, 495, 748	4, 495, 748 4 10	93, 511. 876	728, 223	364, 111 17 4	4, 859, 860 2 2
1858	206, 288. 078	803, 234	803, 231 4 1	109, 865. 628	855, 578	427, 789 5 9	1, 231, 023 9 10
1859	397, 458. 256	1, 547, 603	1, 547, 603 1 8	282, 993. 693	2, 203, 813	1, 101, 906 13 10	2, 649, 509 15 6
1860	656, 425. 814	2, 555, 958	2, 555, 958 0 3	145, 297. 076	1, 131, 500	565, 750 9 9	3, 121, 708 10 0
1861	1, 958, 198. 774	7, 624, 736	7, 624, 736 9 6	145, 215, 788	1, 130, 867	565, 433 19 6	8, 190, 170 9 0
1862	2, 012, 562. 126	7, 836, 413	7, 836, 413 15 6				7, 836, 413 15 6
1863	1, 520, 813. 924	5, 921, 669	5, 921, 669 4 4	176, 125, 086	1, 371, 574	685, 787 1 0	6, 607, 456 5 4
Total	12, 232, 325. 272	47, 629, 614	47, 629, 616 10 2	1, 548, 504. 045	12, 058, 970	6, 029, 487 12 4	53, 659, 104 2 6

SILVER COINAGE.

Date.	Crowns.			Half-crowns.			Florins.			Shillings.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Oz.		£ *s. d.*	*Oz.*		£ *s. d.*	*Oz.*		£ *s. d.*	*Oz.*		£ *s. d.*
1854							200, 150. 200	550, 413	55, 011 6 1	109, 439. 000	552, 414	27, 620 14 6
1855							302, 188. 000	831, 017	83, 101 14 0	248, 818. 000	1, 368, 499	68, 424 19 0
1856							800, 640. 000	2, 201, 760	220, 176 0 0	576, 000. 000	3, 168, 000	158, 400 0 0
1857							607, 680. 000	1, 671, 120	167, 112 0 0	465, 840. 000	2, 562, 120	128, 106 0 0
1858							814, 320. 000	2, 239, 380	223, 938 0 0	565, 200. 000	3, 108, 600	155, 430 0 0
1859							933, 840. 000	2, 568, 060	256, 806 0 0	829, 440. 000	4, 561, 920	228, 096 0 0
1860							231, 120. 000	635, 580	63, 558 0 0	303, 840. 000	1, 671, 120	83, 556 0 0
1861							305, 280. 000	839, 520	83, 952 0 0	251, 280. 000	1, 382, 040	69, 102 0 0
1862							216, 000. 000	594, 000	59, 400 0 0	173, 520. 000	954, 360	47, 718 0 0
1863							341, 280. 000	938, 520	93, 852 0 0	156, 240. 000	859, 320	42, 966 0 0
Total							4, 752, 498. 200	13, 069, 370	1, 306, 937 0 1	3, 670, 617. 000	20, 188, 393	1, 009, 419 13 6

SILVER COINAGE—Continued.

Date.	Sixpences.			Groats.			Fourpences.			Threepences.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces	Value.	Weight.	Number of pieces.	Value.
	Oz.		£ *s.* *d.*	*Oz.*		£ *s.* *d.*	*Oz.*		£ *s.* *d.*	*Oz.*		£ *s.* *d.*
1854	76, 374. 200	840, 116	21, 002 18 1	66, 461. 450	1, 096, 613	18, 276 17 11	252. 000	4, 158	69 6 0	66, 897. 000	1, 471, 734	18, 396 13 6
1855	102, 644. 000	1, 129, 084	28, 227 2 0	39, 154. 000	646, 041	10, 767 7 0	252. 000	4, 158	69 6 0	17, 629. 000	387, 838	4, 847 19 6
1856	252, 720. 000	2, 779, 920	69, 498 0 0	5, 760. 000	95, 040	1, 584 0 0	252. 000	4, 158	69 6 0	46, 284. 000	1, 018, 248	12 728 2 0
1857	203, 040. 000	2, 233, 440	55, 836 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	80, 124. 000	1, 762, 728	22, 034 2 0
1858	175, 680. 000	1, 932, 480	48, 312 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	65, 724. 000	1, 445, 928	18, 074 2 0
1859	426, 240. 000	4, 688, 640	117, 216 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	162, 924. 000	3, 584, 328	44, 804 2 0
1860	100, 080. 000	1, 100, 880	27, 522 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	155, 004. 000	3, 410, 088	42, 626 2 0
1861	54, 720. 000	601, 920	15, 048 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	149, 964. 000	3, 299, 208	41, 240 2 0
1862	90, 000. 000	990, 000	24, 750 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	52, 764. 000	1, 160, 808	14, 510 2 0
1863	44, 640. 000	491, 040	12, 276 0 0	.....	.....	.....	252. 000	4, 158	69 6 0	43, 404. 000	954, 888	11, 936 2 0
Total	1, 526, 138. 200	16, 787, 520	419, 688 0 1	111, 375. 450	1, 837, 694	30, 628 4 11	2, 520. 000	41, 580	693 0 0	840, 718. 000	18, 495, 796	231, 197 9 0

Date.	Twopences.			Pence.			Three-halfpenny pieces.			Total value of silver coined.	Real cost or value of metal.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.		
	Oz.		£ *s.* *d.*	*Oz.*		£ *s.* *d.*	*Oz.*		£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
1854	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	140, 480 8 1	134, 330 2 1
1855	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	195, 510 19 6	192, 002 13 11
1856	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	462, 528 0 0	445, 454 2 7
1857	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	373, 230 0 0	363, 679 13 2
1858	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	445, 896 0 0	432, 678 8 6
1859	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	647, 064 0 0	620, 031 5 7
1860	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	3, 634. 000	159, 896	999 7 0	218, 403 7 0	222, 981 1 6
1861	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	209, 484 0 0	215, 029 0 10
1862	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	7, 267. 610	319, 774	1, 998 11 10	148, 518 11 10	159, 948 2 6
1863	144. 000	4, 752	39 12 0	120. 000	7, 920	33 0 0	.....	.....	.....	161, 172 0 0	171, 855 15 0
Total	1, 440. 000	47, 520	396 0 0	1, 200. 000	79, 200	330 0 0	10, 901. 610	479, 670	2, 997 18 10	3, 002, 287 6 5	2, 957, 990 5 8

COPPER COINAGE.

Date.	Pence.			Halfpence.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Tns.cwt.qrs.lbs.oz.		£ s. d.	*Tns.cwt.qrs.lbs.oz.*		£ s. d.
1854	125 0 0 0 0	6,720,000	28,000 0 0	114 18 0 0 0	12,354,048	25,737 12 0
1855	98 2 0 0 0	5,273,856	21,974 8 0	69 6 3 13 15	7,455,837	15,532 19 10½
1856	22 11 0 0 0	1,212,288	5,051 4 0	18 1 1 0 0	1,942,080	4,046 0 0
1857	14 0 0 0 0	752,640	3,136 0 0	11 0 0 0 0	1,182,720	2,464 0 0
1858	29 0 0 0 0	1,559,040	6,496 0 0	23 0 0 0 0	2,472,960	5,152 0 0
1859	20 0 0 0 0	1,075,200	4,480 0 0	12 0 0 0 0	1,290,240	2,688 0 0
1860*	0 12 0 0 0	32,256	134 8 0			
1860†	47 0 0 0 0	5,053,440	21,056 0 0	37 0 0 0 0	6,630,400	13,813 6 8
1861†	339 0 0 0 0	36,449,280	151,872 0 0	302 0 0 0 0	54,118,400	112,746 13 4
1862†	470 0 0 0 0	50,534,400	210,560 0 0	341 0 0 0 0	61,107,200	127,306 13 4
1863†	261 0 0 0 0	28,062,720	116,928 0 0	89 0 0 0 0	15,948,800	33,226 13 4
Total...	1,426 5 0 0 0	136,725,120	569,688 0 0	1,017 6 0 13 15	164,502,685	342,713 18 6½

Date.	Farthings.			Half-farthings.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.
	Tns.cwt.qrs.lbs.oz.		£ s. d.	*Tns.cwt.qrs.lbs.oz.*		£ s. d.
1854	30 5 0 0 0	6,504,960	6,776 0 0	1 11 2 0 0	677,376	352 16 0
1855	16 0 0 0 0	3,440,640	3,584 0 0			
1856	8 4 3 0 0	1,771,392	1,845 4 0	2 2 2 0 0	913,920	476 0 0
1857	5 0 0 0 0	1,075,200	1,120 0 0			
1858	8 0 0 0 0	1,720,320	1,792 0 0			
1859	6 0 0 0 0	1,290,240	1,344 0 0			
1860*						
1860†	8 0 0 0 0	2,867,200	2,986 13 4			
1861†	24 0 0 0 0	8,601,600	8,960 0 0			
1862†	40 0 0 0 0	14,336,000	14,933 6 8			
1863†	4 0 0 0 0	1,433,600	1,493 6 8			
Total...	149 9 3 0 0	43,041,152	44,834 10 8	3 14 0 0 0	1,591,296	828 16 0

Date.	Total value of copper coined.	Purchase value of copper.
	£ s. d.	£ s. d.
1854	60,865 8 0	32,192 10 11
1855	41,091 7 10½	22,013 4 11
1856	11,418 8 0	6,422 17 0
1857	6,720 0 0	3,492 0 0
1858	13,440 0 0	6,668 16 0
1859	8,512 0 0	3,962 9 0
1860*	134 8 0	9,185 2 1)
1860†	37,856 0 0	
1861†	273,578 13 4	96,735 6 8
1862†	352,800 0 0	203,389 0 0
1863†	151,648 0 0	82,482 0 0
Total	958,065 5 2½	466,543 7 5

* Copper. † Bronze.

NOTE IN REFERENCE TO SILVER COINAGE.

In the silver returned above as purchased and coined, the following proportions of worn silver coin are included, purchased at its nominal value for re-coinage from the Bank of England.

Worn silver coin purchased for recoinage.

Date.	Weight.	Nominal value.	Mint value at 5s. 6d. per oz.	Loss by recoinage.
	Oz.	£ s. d.	£ s. d.	£ s. d.
1854	50, 869. 610	16, 000 0 0	13, 989 2 10	2, 010 17 2
1855	199, 564. 903	63, 000 0 0	54, 880 6 11	8, 119 13 1
1856	234, 200. 371	74, 000 0 0	64, 305 1 11	9, 694 18 1
1857	292, 825. 481	92, 568 0 0	80, 527 0 1	12, 040 19 11
1858	212, 711. 655	67, 500 0 0	58, 495 14 1	9, 004 5 11
1859	188, 739. 915	60, 000 0 0	51, 903 9 6	8, 096 10 6
1860	357, 902. 538	113, 000 0 0	98, 423 3 9	14, 576 16 3
1861	308, 873. 077	97, 600 0 0	84, 940 1 10	12, 659 18 2
1862	425, 591. 682	135, 000 0 0	117, 037 14 3	17, 962 5 9
1863	324, 674. 838	102, 800 0 0	89, 285 11 5	13, 514 8 7
	2, 595, 954. 070	821, 468 0 0	713, 787 6 7	107, 680 13 5

The yearly average price paid per ounce for silver bullion purchased in the market for coinage in the years 1854 to 1863, both inclusive, was as follows:

1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
d. 61¼	*d.* 61¼	*d.* 61⅜	*d.* 61½	*d.* 61½	*d.* 61⅜	*d.* 61¼	*d.* 61½	*d.* 61½	*d.* 61½

THO. GRAHAM,
Master of the Mint.

ROYAL MINT, *July* 20, 1864

Account of all gold, silver, and copper moneys of the realm, coined at the mint, from the 1st day of January, 1858, to the 31st day of December, 1867; showing also the real cost or value of the metal, and the amount represented by the coin.

GOLD COINAGE.

Date.	Sovereigns.			Half-sovereigns.			Total value.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	
	Oz.		£. s. d.	*Oz.*		£. s. d.	£. s. d.
1858	203, 288. 078	803, 234	803, 234 4 1	109, 865. 628	855, 578	427, 789 5 9	1, 231, 023 0 10
1859	397, 458. 256	1, 547, 603	1, 547, 603 1 8	282, 993. 693	2, 203, 813	1, 101, 906 13 10	2, 649, 509 15 6
1860	656, 425. 814	2, 555, 958	2, 555, 958 0 3	145, 297. 076	1, 131, 500	565, 750 9 9	3, 121, 708 10 0
1861	1, 958, 198. 774	7, 624, 736	7, 624, 736 9 6	145, 215. 788	1, 130, 867	565, 433 19 6	8, 190, 170 9 0
1862	2, 012, 562. 126	7, 836, 413	7, 836, 413 15 6				7, 836, 413 15 6
1863	1, 520, 813. 924	5, 921, 669	5, 921, 669 4 4	176, 125. 086	1, 371, 574	685, 787 1 0	6, 607, 456 5 4
1864	2, 223, 140. 374	8, 656, 352	8, 656, 352 16 7	225, 809. 322	1, 758, 490	879, 245 0 11	9, 535, 597 17 6
1865	377, 452. 999	1, 450, 238	1, 450, 238 17 3	235, 602. 014	1, 834, 750	917, 375 6 10	2, 367, 614 4 1
1866	1, 039, 432. 044	4, 047, 288	4, 047, 288 10 5	264, 369. 363	2, 058, 776	1, 029, 388 4 1	5, 076, 676 14 6
1867				127, 485. 816	992, 795	496, 397 17 11	496, 397 17 11
Total	10, 386, 772. 389	40, 443, 491	40, 443, 494 19 7	1, 712, 763. 786	13, 338, 143	6, 669, 073 19 7	47, 112, 568 19 2

SILVER COINAGE.

Date.	Florins.			Shillings.			Sixpences.			Fourpences.		
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	No. of pieces.	Value.
	Oz.		£. s. d.	*Oz.*		£. s. d.	*Oz.*		£. s. d.	*Oz.*		£. s. d.
1858	814, 320. 000	2, 239, 380	223, 938 0 0	565, 200. 000	3, 108, 600	155, 430 0 0	175, 680. 000	1, 932, 480	48, 312 0 0	252. 000	4, 158	69 6 0
1859	933, 840. 000	2, 568, 060	256, 806 0 0	829, 440. 000	4, 561, 920	228, 096 0 0	426, 240. 000	4, 688, 640	117, 216 0 0	252. 000	4, 158	69 6 0
1860	231, 120. 000	635, 580	63, 558 0 0	303, 840. 000	1, 671, 120	83, 556 0 0	100, 080. 000	1, 100, 880	27, 522 0 0	252. 000	4, 158	69 6 0
1861	305, 280. 000	839, 520	83, 952 0 0	251, 280. 000	1, 382, 040	69, 102 0 0	54, 720. 000	601, 920	15, 048 0 0	252. 000	4, 158	69 6 0
1862	216, 000. 000	594, 000	59, 400 0 0	173, 520. 000	954, 360	47, 718 0 0	99, 000. 000	990, 000	24, 750 0 0	252. 000	4, 158	69 6 0
1863	341, 280. 000	938, 520	93, 852 0 0	156, 240. 000	859, 320	42, 966 0 0	44, 640. 000	491, 040	12, 276 0 0	252. 000	4, 158	69 6 0
1864	676, 800. 000	1, 861, 200	186, 120 0 0	821, 520. 000	4, 518, 360	225, 918 0 0	388, 640. 000	4, 253, 040	106, 326 0 0	252. 000	4, 158	69 6 0
1865	574, 560. 000	1, 580, 040	158, 004 0 0	1, 021, 680. 000	5, 619, 240	280, 962 0 0	148, 320. 000	1, 631, 520	40, 788 0 0	252. 000	4, 158	69 6 0
1866	332, 640. 000	914, 760	91, 476 0 0	907, 200. 000	4, 989, 600	249, 480 0 0	467, 280. 000	5, 140, 080	128, 502 0 0	252. 000	4, 158	69 6 0
1867	154, 080. 000	423, 720	42, 372 0 0	393, 840. 000	2, 166, 120	108, 306 0 0	123, 840. 000	1, 362, 240	34, 056 0 0	252. 000	4, 158	69 6 0
Total	4, 579, 920. 000	12, 594, 780	1, 259, 478 0 0	5, 423, 760. 000	29, 830, 680	1, 491, 534 0 0	2, 017, 440. 000	22, 191, 840	554, 796 0 0	2, 520. 000	41, 580	693 0 0

SILVER COINAGE—Continued.

Date.	Threepences.			Twopences.			Pence.			Three-halfpenny pieces.			Total value of silver coined.	Real cost or value of metal.
	Weight.	No. of pieces.	Value.	Weight.	No. of pieces.	Value.	Weight.	No. of pieces.	Value.	Weight.	No. of pieces.	Value.		
	Oz.		£ s. d.	*Oz.*		£ s. d.	*Oz.*		£ s. d.	*Oz.*		£ s. d.	£ s. d.	£ s. d.
1858	65,724.000	1,445,928	18,074 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	445,896 0 0	432,678 8 6
1859	162,924.000	3,584,328	44,804 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	647,064 0 0	620,031 5 7
1860	155,004.000	3,410,088	42,626 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	3,634.000	159,896	999 7 0	218,403 7 0	222,981 1 6
1861	149,964.000	3,299,208	41,240 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	209,484 0 0	215,029 0 10
1862	52,764.000	1,160,808	14,510 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	7,267.610	319,744	1,998 11 10	148,518 11 10	159,948 2 6
1863	43,404.000	954,888	11,936 2 0	144.000	4,752	29 12 0	120.000	7,920	33 0 0	.....	.....	.....	161,172 0 0	171,855 15 0
1864	60,684.000	1,335,048	16,688 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	535,194 0 0	521,003 5 0
1865	79,404.000	1,746,888	21,836 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	501,732 0 0	483,861 13 6
1866	86,604.000	1,905,288	23,816 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	493,416 0 0	486,113 15 2
1867	32,604.000	717,288	8,966 2 0	144.000	4,752	39 12 0	120.000	7,920	33 0 0	.....	.....	.....	193,842 0 0	195,445 17 10
Total	889,080.000	19,559,760	244,497 0 0	1,440.000	47,520	396 0 0	1,200.000	79,200	330 0 0	10,901.610	479,670	2,997 18 10	3,554,721 18 10	3,508,948 5 5

NOTE.—No silver groats have been coined during the last eleven years, nor any half-crowns since 1851.

COPPER COINAGE.

Date.	Pence.			Halfpence.			Farthings.			Total value of copper coined.	Purchase value of copper.
	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.	Weight.	Number of pieces.	Value.		
	Tns. cwt. qrs. lbs.		£ s. d.	*Tns. cwt. qrs. lbs.*		£ s. d.	*Tns. cwt. qrs. lbs.*		£ s. d.	£ s. d.	£ s. d.
1858	29 0 0 0	1,559,040	6,496 0 0	23 0 0 0	2,472,960	5,152 0 0	8 0 0 0	1,720,320	1,792 0 0	13,440 0 0	6,668 16 0
1859	20 0 0 0	1,075,200	4,480 0 0	12 0 0 0	1,290,240	2,688 0 0	6 0 0 0	1,290,240	1,344 0 0	8,512 0 0	3,962 9 0
1860 Copper	0 12 0 0	32,256	134 8 0	.....	.....	.....	.....	.....	.....	134 8 0	9,185 2 11
1860 Bronze	47 0 0 0	5,053,440	21,056 0 0	37 0 0 0	6,630,400	13,813 6 8	8 0 0 0	2,867,200	2,986 13 4	37,856 0 0	
1861	339 0 0 0	36,449,280	151,872 0 0	302 0 0 0	54,118,400	112,746 13 4	24 0 0 0	8,601,600	8,960 0 0	273,578 13 4	96,735 6 8
1862	470 0 0 0	50,534,400	210,560 0 0	341 0 0 0	61,107,200	127,306 13 4	40 0 0 0	14,336,300	14,933 6 8	352,800 0 0	203,389 0 0
1863	261 0 0 0	28,062,720	116,928 0 0	89 0 0 0	15,948,800	33,226 13 4	4 0 0 0	1,433,600	1,493 6 8	151,648 0 0	82,482 0 0
Bronze 1864	32 0 0 0	3,440,640	14,336 0 0	3 0 0 0	537,600	1,120 0 0	7 0 0 0	2,508,800	2,613 6 8	18,069 6 8	9,660 0 0
1865	80 0 0 0	8,601,600	35,840 0 0	45 0 0 0	8,064,000	16,800 0 0	13 0 0 0	4,659,200	4,853 6 8	57,493 6 8	31,740 0 0
1866	93 0 0 0	9,999,360	41,664 0 0	14 0 0 0	2,508,800	5,226 13 4	10 0 0 0	3,584,000	3,733 6 8	50,624 0 0	26,910 0 0
1867	51 0 0 0	5,483,520	22,848 0 0	14 0 0 0	2,508,800	5,226 13 4	14 0 0 0	5,017,600	5,226 13 4	33,301 6 8	18,960 0 0
Total	1,422 12 0 0	150,291,456	626,214 8 0	880 0 0 0	155,187,200	323,306 13 4	134 0 0 0	46,018,860	47,936 0 0	997,457 1 4	489,692 14 7

NOTE.—No half-farthings have been coined during the last eleven years.

Worn silver coin purchased for recoinage.

Date.	Weight.	Nominal value.	Mint value at 5-6 per ounce.	Loss by recoinage.
	Ounces.	£ s. d.	£ s. d.	£ s. d.
1858	212, 711. 655	67, 500 0 0	58, 495 14 1	9, 004 5 11
1859	188, 739. 915	60, 000 0 0	51, 903 9 6	8, 096 10 6
1860	357, 902. 538	113, 000 0 0	98, 423 3 9	14, 576 16 3
1861	308, 873. 077	97, 600 0 0	84, 940 1 10	12, 659 18 2
1862	425, 591. 682	135, 000 0 0	117, 037 14 3	17, 962 5 9
1863	324, 674. 838	102, 600 0 0	89, 285 11 5	13, 514 8 7
1864	388, 388. 152	123, 500 0 0	106, 806 14 10	16, 693 5 2
1865	292, 496. 983	93, 000 0 0	80, 436 13 4	12, 563 6 8
1866	361, 280. 187	115, 000 0 0	99, 352 1 0	15, 647 19 0
1867	376, 142. 927	120, 000 0 0	103, 439 6 0	16, 560 14 0
	3, 236, 801. 954	1, 027, 400 0 0	890, 120 10 0	137, 279 10 0

The yearly average price paid per ounce for silver bullion purchased in the market for coinage in the years 1858 to 1867, both inclusive, was as follows:

1858.	1859.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.
d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
61¼	61⅞	61¼	61½	61½	61½	61¼	61	61⅞	60¾

THO. GRAHAM,
Master of the Mint.

ROYAL MINT, *June* 22, 1868.

C.

LEGATION OF THE UNITED STATES,
London, December 23, 1876.

To the United States Monetary Commission, 1876:

In reply to the interrogatories and requests addressed to me as the representative of the United States in Great Britain, I have the honor to state that, in my attempts to gain such accurate information as I deemed it important to communicate, I met with so many difficulties and encountered such variety of opinion upon several points, that finally, at the suggestion of the bankers, Messrs. Morton, Rose & Co., I was placed in communication with and employed Mr. Ernest Seyd, of London, (a well-known writer upon monetary subjects,) to collect the evidence from various sources and embody that evidence in formal answers to the questions proposed by the commission.

In my own handwriting I have made various comments upon Mr. Seyd's testimony. "The report of the parliamentary committee on silver" I have already forwarded, and I now inclose a pamphlet by Mr. Seyd on the question of seigniorage and a copy of the Journal of the Society of Arts, containing an article upon the monetary question under the head of "Indian section."

All of which is respectfully submitted, and I have the honor to be,
Your most obedient servant,

EDWARDS PIERREPONT.

D.

Answers to the questions submitted.

To question 1. *Mintage value of gold and silver.*—No change has taken place in this since 1816. The ounce troy of British standard gold (22 carats, or 916⅔ mills fine) is coined into £3 17*s.* 10½*d.*, sterling. The ounce troy of British sterling silver (222 dwts., or 925 mills fine) is coined into 5*s.* 6*d.* sterling. The relative metallic proportion in the coinage is therefore 1 part of fine gold to $14\frac{9}{20}$ (14.44835) of fine silver.

Bank value of gold.—Although the public has the right to bring gold for coinage direct to the mint, it is more expedient to deal with the Bank of England, which, under the bank act of 1844, is bound to purchase suitable gold bars at £3 17*s.* 9*d.* per ounce. The bank is not bound to sell gold bars at a paid price, but it has made a practice of doing so at £3 17*s.* 10½*d.* per ounce. For certain highly refined bar-gold, the bank has lately charged £3 17*s.* 11*d.* per ounce.

The Bank of England does not deal in silver. Under the act it has the option of holding in the issue department an amount of silver not exceeding one-fourth of the gold held at the same time in that department, at optional buying and selling prices, but it has entirely ceased to deal in silver on its own account.

Market-value of gold and silver.—The market-value of gold has varied within the range of the Bank of England buying and selling rates, (viz, 77*s.* 9*d.* and 77*s.* 11*d.* per ounce standard.) For the practical purposes of this inquiry the price of gold in England may be taken as fixed.

The variations in the market-value of silver have been numerous.

Question 2. The fluctuations in the price of silver in the London market appear to have been as follows, in pence, per ounce standard:

Years.	Fluctuations. *Extremes.*	Average.	Years.	Fluctuations. *Extremes.*	Average.
1820 to 1836	60⅛ to 58¾	59⅝	1856	60½ to 62¼	61 7/16
1837	60⅜ to 59	59 9/16	1857	62¼ to 61	61⅛
1838	59⅜ to 60⅛	59½	1858	60¾ to 61¾	61 5/16
1839	60⅛ to 60	60⅛	1859	61¼ to 62¼	62 1/16
1840	60⅛ to 60¾	60⅜	1860	62⅜ to 61¾	61 11/16
1841	60⅜ to 59¾	60 1/16	1861	60½ to 61½	60 15/16
1842	59¼ to 60	59 7/16	1862	61 to 61⅞	61 7/16
1843	59 to 60	59 3/16	1863	61 to 61¾	61⅜
1844	59½ to 59⅝	59½	1864	60⅞ to 61⅞	61⅜
1845	58⅞ to 59⅞	59¼	1865	60½ to 61⅞	61 1/16
1846	59 to 60⅛	59 5/16	1866	62¼ to 60⅜	61⅛
1847	60⅜ to 59⅜	59 11/16	1867	61¼ to 60⅜	60 9/16
1848	59⅛ to 60	59½	1868	60⅜ to 60⅞	60½
1849	60⅛ to 59½	59⅝	1869	60 to 61	60 7/16
1850	59½ to 61½	60 1/16	1870	60½ to 60⅝	60 9/16
1851	61⅛ to 59⅞	61	1871	60½ to 61	60½
1852	59⅞ to 61⅞	60½	1872	60⅞ to 59¼	60 5/16
1853	60⅜ to 62⅜	61½	1873	59⅛ to 58	59⅛
1854	60⅞ to 61⅜	61⅛	1874	59¼ to 57½	58 5/16
1855	60⅜ to 61⅜	61 5/16	1875	57½ to 55½	56⅜
1876 { 54⅞ 56⅛ / 47 52	52½ 50 / 56 58	&c., to December, 1876.			

Answer to A. The relative proportions of the value of fine gold versus fine silver may best be estimated from the following table as a guide for the above variations:

Proportions of gold to silver, determining the market-value of standard-silver in London, per ounce, in pence and decimals, and nearest $\frac{1}{16}$:

Gold to silver.		Pence and dec.		Pence and 1.16.	
1 to 15	=	62.86636	=	$62\frac{7}{8}$.	
1 to $15\frac{1}{2}$	=	61.83577	=	$61\frac{13}{16}$.	
1 to $15\frac{1}{2}$	=	60.83842	=	$60\frac{13}{16}$	the Latin Union rate.
1 to $15\frac{3}{4}$	=	59.87237	=	$59\frac{7}{8}$.	
1 to 16	=	58.93722	=	$58\frac{15}{16}$.	
1 to $16\frac{1}{4}$	=	58.03049	=	58.	
1 to $16\frac{1}{2}$	=	57.15123	=	$57\frac{1}{4}$.	
1 to 17	=	55.47032	=	$55\frac{7}{16}$.	
1 to 18	=	52.38863	=	$52\frac{3}{8}$.	
1 to 19	=	49.63134	=	$49\frac{5}{8}$.	
1 to 20	=	47.14977	=	$47\frac{1}{4}$.	

The rate of $60\frac{13}{16}$ being that resulting from the most prevalent legally adopted proportion of 1 part of gold to $15\frac{1}{2}$ of silver, it is expedient here to show the deviations under or above that normal rate in the average prices of each year.

Years.	Deviations.			
	In pence.		Per cent.	
	Under.	Over.	Under.	Over.
1837	$1\frac{1}{4}$		2	
1838	$1\frac{5}{16}$		$2\frac{1}{4}$	
1839	$\frac{7}{16}$		$\frac{3}{4}$	
1840	$\frac{7}{16}$		$\frac{3}{4}$	
1841	$\frac{3}{4}$		$1\frac{1}{4}$	
1842	$1\frac{3}{8}$		$2\frac{1}{4}$	
1843	$1\frac{5}{8}$		$2\frac{3}{4}$	
1844	$1\frac{5}{16}$		$2\frac{1}{4}$	
1845	$1\frac{9}{16}$		$2\frac{1}{2}$	
1846	$1\frac{1}{2}$		$2\frac{1}{2}$	
1847	$1\frac{1}{8}$		$1\frac{7}{8}$	
1848	$1\frac{5}{16}$		$2\frac{1}{8}$	
1849	$1\frac{1}{16}$		$1\frac{3}{4}$	
1850	$\frac{3}{4}$		$1\frac{1}{4}$	
1851		$\frac{1}{8}$		$\frac{1}{4}$
1852	$\frac{5}{16}$		$\frac{1}{2}$	
1853		$1\frac{1}{16}$		$1\frac{1}{2}$
1854		$1\frac{1}{16}$		$1\frac{1}{8}$
1855		$\frac{1}{2}$		$\frac{5}{8}$
1856		$\frac{1}{2}$		$\frac{5}{8}$
1857		$\frac{15}{16}$		$1\frac{1}{4}$
1858		$\frac{1}{2}$		$\frac{7}{8}$
1859		$1\frac{1}{4}$		$2\frac{1}{8}$
1860		$\frac{7}{8}$		$1\frac{3}{8}$
1861	$\frac{5}{8}$		$\frac{7}{8}$	
1862		$\frac{5}{8}$		$\frac{7}{8}$
1863		$\frac{9}{16}$		1
1864		$\frac{9}{16}$		1
1865		$\frac{1}{2}$		$\frac{3}{4}$
1866		$\frac{5}{16}$		$\frac{1}{2}$
1867	$\frac{1}{4}$		$\frac{3}{8}$	
1868	$\frac{5}{16}$		$\frac{1}{2}$	
1869	$\frac{3}{8}$		$\frac{5}{8}$	
1870	$\frac{1}{4}$		$\frac{3}{8}$	
1871	$\frac{5}{16}$		$\frac{1}{2}$	
1872	$\frac{1}{2}$		$\frac{7}{8}$	
1873	$1\frac{9}{16}$		$2\frac{3}{8}$	
1874	$2\frac{1}{2}$		$4\frac{1}{4}$	
1875	$3\frac{15}{16}$		$6\frac{3}{8}$	
1876	13 to $2\frac{1}{2}$		$21\frac{1}{2}$ to $4\frac{1}{2}$	

This method of showing the percentage of deviation from the normal rate of the Latin union and other systems may seem preferable to stating the relative value of gold versus silver in the usual form as it has been done often before. (See report of the select committee of the House of Commons on the depreciation of silver.—Mr. Henry Waterfield's evidence in the appendix, from page 29 to 33.)

Remarks on questions 1 *and* 2, *and the facts shown under A.*—It is expedient here to bear in mind that the London silver market has but few requirements for home coinage and the use of silver in industry and art. (See subsequent evidence.) The price of silver is dependent on other countries. Up to 1872 (before Germany and other European states demonetized silver) the supplies were absorbed partly by Europe, partly by India and China. The fluctuations were mostly influenced by balances of trade, by wars, and other events, which, in their multifarious bearings, were altogether separate from any supposed regular principle in the general question of the stability of the value of silver.

If, therefore, it should be the object of the American commission to deduce from the London prices as from quasi "mathematical" results of supply and demand, any practically applicable average, caution should be exercised. The writer is not called upon to draw attention to the fallacies which arise from the taking of such average, the very process itself being contrary to the facts, but he may point here to one important fact which tends to show that the London prices do not represent the true value of silver from time to time. The quotations of silver in London for shipment either to the continent or India, China, and elsewhere, do not only depend upon the state of the exchanges, but on the costs of freight and insurance. In the early part of this century these charges on bullion to the continent were 1 to 2 per cent. or more; they are now $\frac{1}{8}$ to $\frac{1}{16}$ per cent. or less. Freights and insurance to India, China, and other parts amounted to from 4 to 6 per cent.; they are now at 1 to 2 per cent. and less. The effects which these changes have had upon the prices of silver, together with the saving of time and interest, are obvious. Silver, which fifty years ago could not be shipped, say, at 59 pence per ounce, could since be dealt in at 60 pence or more, in both cases the same conditions of special state of exchanges and general value of silver prevailing. It is unnecessary to enlarge upon this matter; it is evident, however, that in the period from 1820 to, say, 1850, silver had in reality a higher value compared to the prices since.

This matter may be of importance to the American commission, as it is very likely that the disposition shown to adopt a proportion of 1 to 16 or $16\frac{1}{4}$ in any future bimetallic system, finds support in the London quotations. The facts here submitted (see the table of percentages of deviations on pages 4 and 5, and make allowances for the percentages of shipping charges,) would tend to show that up to 1872 the relative universal value between gold and silver has been 1 to $15\frac{1}{2}$, with a tendency in favor of silver. The old American dollar of $412\frac{1}{2}$ grains, being 1 to 16, and still more the trade-dollar of 420 grains, therefore involved an anomaly; whereas, a silver dollar of 400 (399.9) grains would have been in accord with 1 to $15\frac{1}{2}$. Without desiring to touch upon controversial matters, the writer may be permitted to point out these facts.

Answer to B. The legal-tender metal for sums of the largest amounts in Great Britain is gold. Since 1816 no change has been made. Silver coin is legal tender only to the amount of £2 in any single payment.

Answer to C. The quantity of gold coin now current in the United Kingdom is estimated at £105,000,000 sterling; the quantity of silver coin is estimated at between £16,000,000 and £17,000,000. Besides this

the Bank of England in its issue department holds a stock of gold bars, foreign coins, and sovereigns, which, according to the weekly statement of that bank, on the 13th December, 1876, amounted to £28,199,140.

The totals (in round numbers) may be given as—

Gold in bank	£28,000,000
Gold coin circulating	105,000,000
Total gold	133,000,000
Silver coin	16,500,000
Total gold and silver in hand as money	149,500,000

The stock of bullion in the Bank of England is subject to considerable variations.

In 1844 the circulation of gold coin was estimated at £60,000,000 sterling.

The silver coinage, together with the copper coinage, is entirely subsidiary.

(In the report of the committee (Appendix, p. 1) the silver circulation is stated at £19,500,000. It appears to me that insufficient allowance has been made for exports by passengers and other losses.)

Answer to D. The estimates of the quantity of gold and silver existing in the United Kingdom in the shape of jewelry, plate, and other articles susceptible of being converted into coin differ greatly.

The writer has taken considerable pains in investigating this subject, and refers to his evidence before the committee of the House of Commons on silver, (pages 58 and 59,) and to a statement made before the Society of Arts, (see the Journal of the Society of Arts of 17th March, 1876, pages 358 to 361, herewith transmitted.)

From the returns of the Goldsmith's Company it appears that the average yearly value of gold plate retained for home use and subject to the hall mark is about £50,000 per annum; but this comprises more or less costly gold plate. Watch-cases and innumerable small articles of jewelry are not subject to hall marking. It is impossible to estimate the total amount of the latter, even at a rough guess. The sums of £40,000,000 to £60,000,000 have been mentioned as the grand total; but as susceptible of being converted into coin, viz, gold utensils, watch-cases, chains, good jewelry, and other articles, an estimate of £25,000,000 or £30,000,000, gold, will probably be more than sufficient.

It may, however, be remarked that the consumption of gold for gilded jewelry, for picture-frames, signs, interior and exterior decorations is very large. The abrasion on coinage is comparatively small; that on gilt jewelry, ornaments, and other objects enormous. The estimate that from £12,000,000 to £13,000,000 of gold are annually used in the arts all over the world, of which one-half becomes entirely lost, does not seem excessive.

The quantity of silver plate and articles of silver susceptible of conversion into coin appears to be larger than that of gold. The total of silver goods of all descriptions in the United Kingdom has been estimated at about £50,000,000 to 52,000,000. From this amount, which seems excessive to the writer, allowance must be made for a great many small articles, mountings, ferrules, pencil-cases, and the value of the silver on plated goods. The returns of the Halt-marked silver goods (such as spoons, forks, dishes, plates, candelabra, sets, trays, &c., which alone are marked) show that from 1800 to 1875, 52 millions of ounces, equal to metallic value of £13,000,000, have been Halt-marked. The infor-

mation obtained is to the effect that silver plate manufacture has declined, on account of the extension of electroplating. It is also supposed that somewhat previous to 1800, rather more silver goods were made than before. Assuming that of last century's manufactures about one-half has been remelted, it is possible that the stock of real silver plate, including the more ancient treasures of silver, of which English noblemen hold a great deal, and also articles which have not been honestly Hall-marked or imported, amounts to between £35,000,000 and £40,000,000 as available in case of need.

The consumption of silver by abrasion of our silver coinage seems to amount to about £15,000 per annum. The consumption of silver for the purposes of plating has been stated as more than covered by one million ounces, or about £250,000 per annum.

[I find considerable diversity of opinion upon this question and great doubt expressed as to any definite knowledge.—E. P.]

Answer to E. The bank note circulation of the United Kingdom does not comprise paper money or notes issued by the government.

The amount of bank-notes not covered by bullion or cash money allowed to be issued in the United Kingdom is limited as follows:

The Bank of England	£15,000,000
116 private banks in England and Wales	3,807,992
54 joint-stock banks	2,652,993
11 banks in Scotland	2,749,271
6 banks in Ireland	6,354,494
Total fiduciary notes allowed	30,564,750

(For detailed account of the several sums allowed to each of these banks see parliamentary returns and the Banking Almanac for 1876, Waterlow & Sons, London.)

The Bank of England can issue bank-notes beyond the fixed limit of fiduciary issue of £15,000,000 against bullion. Thus, on the 13th December, 1876, it held in its issue department £28,000,000 of bullion, giving, with the £15,000,000 fiduciary issue, (on securities,) a total issue of £43,000,000. Of this there were in circulation at that date £27,000,000 and in reserve £16,000,000.

The English issuing private and joint-stock banks are not permitted to issue more notes, even against more gold, but the Scotch and Irish banks are allowed to do so.

The Bank of England notes alone are legal tender in England and Wales; none of the other notes are legal tender even in their own districts.

All English notes are convertible into gold at par.

Answer to F. *The annual mining product of gold and silver in the United Kingdom.*—Gold is found in small quantities in certain ores, but does not seem worth refining; at any rate no returns are furnished. The produce of silver from British lead and ores amounts to between £140,000 to £160,000 per annum. (See R. Hunt's Mineral Statistics.)

From foreign ores imported a small produce (not stated) of gold is derived; that of silver from ores, Spanish and other lead, has been estimated by Sir Hector Hay (see report of committee on silver) at £1,000,000. No returns are given by smelters and refiners, but it is probable that, including the native production above stated, the total produce of silver per annum in England does not fall short of £1,000,000.

To question 3. It is now recognized that the recent fall in the value

of silver was not due to the increased supply from the United States or the lesser demand for India, nor even the pressure of the German silver on our market; for, including the German shipments, the total sent here was less than before; but that it is due to the policy of the demonetization of silver followed by Germany and compelling other nations to guard against it.

[This is disputed, and the parliamentary committee on silver consider that the fall is due in a great measure to the increased product of silver in the United States.—E. P.

The demand for silver in Europe, which had up to 1872 absorbed rather more than one-half of the supply of the mines, was thereby stopped.

[I find the above statement differs entirely from the evidence taken before the parliamentary committee on silver.—E. P.]

To question 4. The permanence of this main cause of the depreciation of silver, the demonetization, depends upon the course which the nations at large will adopt. So far, Europe is closed against silver. The supposition that countries like Russia, Italy, Austria, and other paper-valuing states would absorb silver because it is now cheaper has proved a fallacious one. If these states recover the power to resume specie payments, they will not use it for the acquisition of a metal falling in price, and thus tumble from one depreciation to another, but they will be bound to select gold. Only in the event of the adoption of a general bi metallic system will they also take silver for legal-tender money. This has been clearly recognized by the leading economists in Austria, Russia, &c., and pending a decision by an international agreement on the point, the eventuality of being compelled to adopt the gold valuation is kept in view in these states.

The demand in Europe being stopped at present, it remains to be seen whether the Latin Union (France, Italy, Switzerland, Belgium, Greece, &c.) will, at its next meeting, decide in favor of gold, or separate, or remain on the bi-metallic system. Should the price of silver fall lower, or should the adoption of the gold valuation by other nations continue, France and her monetary allies will also be compelled either to sell or to lower the price of silver. As the report of the committee of the House of Commons says, "If the policy of demonetizing silver continue, no possible limit can be set to the further fall in the price of silver."

The present comparatively higher price of silver (December 15, 58 pence per ounce) is due to the scarcity of American and other silver here, and to the sudden great rise in the Indian exchange. A great stimulus has been given to shipments of goods from India and China, consequent upon the cheap silver, and a rise in the price of Indian and Chinese produce has taken place. If it be questionable whether Europe can consume more eastern goods, unless at reduced prices, it would seem still more doubtful whether it can do so when the rise in the exchange makes those goods dearer.

The impression gains ground that the shipments have been overdone, that a reaction must follow, (already some of the goods have much receded in value here,) and that silver must soon again fall in price.

That India and the East cannot in future absorb all the new supplies of silver, unless at a permanent corresponding reduction in the value of the metal, begins to be recognized. Whether the corresponding reduction will ultimately involve 10, 20, or 50 per cent. remains to be seen. A kind of level may be reached when the enforced demonetization of silver elsewhere has been effected.

From this point of view the original cause of the decline in the value of silver remains in force in spite of the rise in its value from 47 to 58

pence within the last few months. Unless, therefore, other nations remonetize silver, so as to counteract the German, Scandinavian, and other demonetizations, the cause remains a permanent one.

The question of the possible adoption of the bi-metallic system by the United States has favorably influenced silver. Whether the final adoption of that system by America will be strong enough to restore the equilibrium, and to uphold it in conjunction with the Latin Union, remains to be seen; for so long as England, Germany, and other nations remain antagonistic to that system, they would only disturb it continually.

The permanency of the cause is, therefore, so to speak, dependent upon itself in the first instance, and upon the course which other nations are forced to adopt in the second instance.

[I find that most of the eminent bankers think the depression will be permanent.—E. P.]

To question 5. The change in the relative market-value of gold and silver so far has only affected the export trade of the United Kingdom. The interior circulation has suffered no disturbance so far, for the obvious reason that the gold valuation has existed here since 1816, and that consequently no legal change had to be made. Indeed, the public as well as the authorities regard the fact that nations like Germany and others who have already adopted, or those like the United States which have partly contemplated or may still contemplate the complete adoption of the gold valuation are only following the wise, or supposed wise, example of England. The suggestion that the gold valuation here has been a successful one for the reasons that other nations did not have it, that those other nations, per contra, furnished the set-off by their silver valuation, and therefore gave support to the different systems alike, is not yet recognized excepting by the experts in matters of this kind.

The imports of this country have shown a steady increase, and the capacity of paying for this arises from the fact that the nation is a large holder of foreign stocks, bonds, and obligations; from which, as from a capital estimated at £1,200 millions, an independent income of from £60 to £70 millions per annum is derived.

But the exports of British produce have, since 1872, greatly declined, as the following statistics show, sums in millions:

Years.	Exports of British goods.	Exports of foreign goods.	All imports.
1854	£97	£18	£152
1855	96	21	143
1856	115	23	172
1857	122	24	187
1858	116	23	164
1859	130	25	179
1860	135	28	210
1861	125	34	217
1862	123	42	225
1863	146	50	248
1864	160	52	274
1865	165	53	271
1866	188	50	295
1867	180	44	275
1868	179	48	294
1869	189	47	295
1870	199	44	303
1871	223	60	331
1872	256	58	354
1873	255	55	371
1874	239	58	370
1875	225	52	373
1876	202	.....	.....

(To end of November, 1876, the exports of British produce amounted to £185 millions.)

The falling of in the exports from £256 millions in 1872 to £202 millions in 1876 (£54 millions) has been ascribed to a variety of causes. It has been said that it was due to overtrading; yet during the last half century several crises have been admittedly caused by overtrading, and in the following year the usual increase set in again. It has been laid to the Franco-German war of 1871; but in the twenty-five years before, there were longer and more distressful wars, not to speak of the American civil war, and yet exports increased. Numerous other causes have also been assigned.

It is certain, however, that the commencement of the decline in British exports is contemporary with the active demonetization-of-silver movement in Germany. The writings of the late Monsieur Wolowski, and those of myself, who, in 1868, (before the late war took place,) predicted the decline in the commerce of the world and the falling-off of the English export trade as the first consequence of the demonetization of silver by either France or Germany, are now admitted to have had a sound foundation, at least by those who investigate the matter. The industry of the country has slackened considerably in consequence of the dullness of business, and great losses have been incurred. The present period of renewed activity in the Eastern trade is considered an uncertain one, and it remains to be seen whether the coming year will bring an improvement.

Although the government and the merchants connected with India have suffered great losses, and although it was hinted at that the state would, in the event of a further or permanent decline of silver, initiate some legal action, for which the parliamentary committee on silver was to prepare certain facts, yet nothing has been done, and under the momentary rise in the price of silver it is not likely that the government will take the matter in hand until further pressure is brought to bear.

[I find that many of the best men of business do not entertain the views expressed in this answer.—E. P.]

To question 6. The British mint professes to coin gold free of seigniorage or brassage, but in reality a charge equivalent to brassage arises in this way: Although the law says that no charge for the coining of gold shall be made, and that everybody is free to bring gold to the mint for coinage, yet the regulations established by the treasury under powers given by the act, as to the quality and size of the bars, the formalities and attendancies required, deter people from going there. The master of the mint can also plead that he must serve people in turn, so if he is coining gold for the Bank of England, or silver or copper coins, he may delay the "turn" for weeks and months. The public, therefore, and even the large refiners, never go to the mint, but sell their gold to the Bank of England at £3 17*s.* 9*d.* per ounce, receiving bank-notes at once. The principle of coining, so to speak, the gold bar by way of bank-note, is correct enough, and the Bank of England is thereby enabled to occupy the mint in a more regular manner, and to take care that there is enough gold to spare, without over-coinage. And here, by the way, the writer calls attention to the great waste of coining in the United States the many millions of new double-eagles, which, almost fresh from the American mints, are melted down in Europe, and which might just as well reach Europe in the shape of bars, (not necessarily 900 fine,) and save expense to the mint and the American public.

The mint price of British gold being £3 17*s.* 10½*d.*, the bank's buying price £3 17*s.* 9*d*, the 1½*d.* per ounce taken by the bank takes the place

of brassage. But besides this the Bank of England makes charges ($\frac{4}{6}$) for assays, assays only to $\frac{1}{3000}$ fine, insists upon all bars being remelted into "bank-bars" of about 200 ounces, and does not weigh so accurately as the French. In France assays are made to $\frac{1}{10000}$ fine; the guarantee for melting is borne by the importer, &c.

A comparison between England and France, on a supposed bar of 200 ounces, gives the following results:

BANK OF ENGLAND.

	Per mill.
1½*d.* per ounce =	1.605
Assay $\frac{1}{3000}$ =	0.150
Cost of melting =	0.245
Cost of assay =	0.265
Turn of scale =	00.62
	2.327

The loss on melting on fine bars adds at least another 0.500.

BANK OF FRANCE.

Brassage 6.70 francs per kilogram =	2.161
Assay $\frac{1}{10000}$ 6.70 francs per kilogram =	0.050
Cost of assay 6.70 francs per kilogram =	0.077
Turn of scale 6.70 francs per kilogram =	0.008
	2.296

Therefore, although France professedly charges a brassage, and England pretends to coin free, the actual charge in the latter country is the greater one. Until a few years ago the Bank of England assayed only to $\frac{1}{8}$ of a carat grain fine, adding another charge of $\frac{1}{2}$ per mille, but in consequence of a pamphlet, "The Question of Seigniorage and Charge for Coining," the assay at least was improved. There is no restriction whatever on the importation of gold into the bank and professedly to the mint.

The silver coinage of Great Britain is issued at 66 pence per ounce. It is ordered to be coined for account of the state only, and no private person can bring silver to the mint for coinage, nor does the Bank of England buy silver. As a rule the Bank of England suggests to the treasury the necessity for more silver coinage, when silver is bought in the market for account of the mint, and there coined. The market price being, say 61, 60, 55, or less pence per ounce, as the case may be, and the coin being of the nominal value of 66 pence, the profit or quasi-seigniorage is large.

The reinstatement of worn-out silver coins costs, on the average, about £15,000 per annum.

Sovereigns of inferior gold have now and then been made by counterfeiters, but are easily detected. In the last few years coin made of platinum has been met with, but so far the number of such pieces has created no alarm.

Silver coin is counterfeited in the usual clumsy manner of inferior metal. Whether the cheap price of silver, which, for instance, at 50 pence would yield a gross profit of 32 per cent., will lead to the manufacture of good pieces by counterfeiters remains to be seen; their detection would be very difficult.

To question 7. Complete details of the imports and exports of gold and silver bullion and coin are furnished by the British custom-house returns and the report of the parliamentary committee on silver.

To question 8. There are no restrictions on gold and silver mining;

as stated previously, the production of the precious metals is confined to the extraction of silver from ores.

To question 9. The literature on the monetary question is a most extensive one; it is to be presumed that the commission is in possession of the principal books.

The above are by me respectfully submitted with my comments.

EDWARDS PIERREPONT.

LONDON, *December* 23, 1876.

HAWAII.

A.—Minister Peirce to Secretary of State.
A 1.—Currency law of Hawaii, 1872.
A 2.—Currency law of Hawaii, 1876.

A.

LEGATION OF THE UNITED STATES,
Honolulu, Hawaiian Islands, October 27, 1876.

SIR: I have the honor to acknowledge the receipt, on the 21st instant, of your circular of September 18, 1876, reciting the concurrent resolution of Congress of the 15th August last, establishing a United States monetary commission, and inclosing a circular of said commission conveying interrogatories and requests for information on subjects mentioned in the resolution above referred to. In reply, I have to state that this country produces none of the precious metals; has no mining laws, nor mint for coining or refining.

The currency of these islands, for many years previous to that of 1872, consisted of the gold and silver coins of many nations of the world. Their respective value was conventional. No legal standard existed.

The Hawaiian government passed an act on the 29th of July, 1872, with the title "To regulate the currency," a copy of which is herewith inclosed, marked A No. 1. The silver coins of the United States then became the standard of values, and legal tender for the payments of debts. The gold coins of the United States, however, from their great convenience in the operations of trade and commerce, formed the principal part of the money in circulation, and that until the depreciation of value of silver coin and silver bullion took place in California. That event caused the United States gold coin to disappear from circulation here, and United States silver coin and French five-franc pieces were substituted therefor. As the financial and commercial interests of this kingdom are dependent on or united with those of California, it was deemed necessary to cause the currency system of these islands to conform to or correspond with that existing in California. Hence the Hawaiian government, by an act passed on the 19th September last, to take effect March 1, 1877, repealed the currency regulations of 1872, and established the gold coins of the United States for the standard of currency, and the legal tender in payment of debts.

A copy of the law referred to is herewith inclosed, marked A No. 2.

The Hawaiian treasury, under a law of several years standing, exer-

cises the authority to receive specie on deposit, and to issue certificates for the same. They are as follows, as copied from one before me:

No. 871. CERTIFICATE OF DEPOSIT. $10.

Department of Finance, Honolulu, H. I., August 14, 1873.

Messrs. Bishop & Co. have this day deposited in the Hawaiian treasury ten dollars, payable to the order of Bishop & Co.

ROBERT STIRLING,
Minister of Finance.

CHARLES A. CASTLE,
Register of Public Accounts.

(Indorsed on back :) Bishop & Co.

Certificates are issued as called for in denominations of 10, 20, 50, 100, 500, and 1,000 dollars. Though not legal tender, these certificates are in general use as a convenient currency, convertible into specie at the will of the holder. They are also received by the government in payment of customs dues, taxes, and other debts. Heretofore the certificates represented silver coin, but hereafter will be paid in gold coin on presentation at the treasury; there being sufficient in hand to cover amount of certificates outstanding.

In view of a return to specie payments by the United States Government, I beg leave to suggest, most humbly, as a means of partially strengthening the United States Treasury in that event—

First. That certificates of gold-coin deposits in United States Treasury be made legal tender in payment of debts, as well as receivable as now for customs-dues.

Second. To authorize by law trustees of all funds, whether held for estates or individuals, by chancery, probate, or by administrators and executors and others, to deposit moneys in the United States Treasury and receive registered certificates for the amount, bearing interest at 4 per cent. per annum, payable on demand.

It is the custom in England, and sanctioned by courts of law, to invest such kind of property in government 3 per cents., thus relieving trustees from some responsibility for the safe keeping of moneys in their charge, and to the benefit of the public treasury.

I have the honor to be, sir, with great respect, your obedient servant,

HENRY A. PEIRCE.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

[Inclosures.]

A No. 1.—Printed copy of Hawaiian law of 1872, regulating currency.

A No. 2. Printed copy of Hawaiian law of 1876, repealing above and establishing a currency in the gold coins of the United States.

A 1.

AN ACT to regulate the currency.

Be it enacted by the King and the legislative assembly of the Hawaiian Islands in the legislature of the kingdom assembled :

SECTION 1. The currency of this kingdom shall consist of the dollar of the value of one hundred cents United States coinage; the half-dollar of the value of fifty cents; the quarter-dollar of the value of twenty-

five cents; and the dime and half-dime of the value of ten cents and five cents respectively, of the said coinage; and the half-dollar, or fifty cents silver coin of the United States of America, shall be taken as the standard and be a legal tender at the value of a half-dollar in all payments to be made in this kingdom.

Gold coins and silver coins other than those above named, bearing the legalized impress of any sovereign state, shall also be receivable in payment of government dues, duties, and taxes, at the exchequer, and in tender or payment of debts contracted by private individuals, and payable in this kingdom at their value as fixed by the King in privy council, and published by the minister of finance in the government gazette.

In case any of the said coins established as legal tender as above provided be refused, the payer having tendered the same, may bring them into court and plead such tender and refusal in bar of costs.

SECTION 2. Coins of the value of twenty-five cents or less shall be legal tender only as follows:

In all payments not exceeding ten dollars, and in all payments exceeding ten dollars and not exceeding one hundred dollars, in the proportion of fifteen dollars for every hundred; and in all payments exceeding one hundred and not exceeding one thousand dollars, in the proportion of ten dollars for every hundred; and in the proportion of five dollars for every hundred in all payments exceeding one thousand dollars.

SECTION 2. All acts and parts of acts inconsistent with or contrary to the provisions of this act are hereby repealed.

Approved this 29th day of July, A. D. 1872.

KAMEHAMEHA R.

A 2.

AN ACT to regulate the currency.

Be it enacted by the King and the Legislative Assembly of the Hawaiian Islands in the legislature of the kingdom assembled—

SECTION 1. From and after the first day of March, in the year of our Lord one thousand eight hundred and seventy-seven, the gold coins of the United States of America shall be the standard and a legal tender in this kingdom in all payments of debts at their nominal value.

SEC. 2. *Be it further enacted*, That the silver coins of the United States shall be a legal tender at their nominal value in payment for all debts within this kingdom for any amount not exceeding fifty dollars; and for debts between fifty and one hundred dollars, fifty dollars may be paid in silver coins and the remainder shall be paid in gold coins as aforesaid.

SEC. 3. *And be it further enacted*, That for all debts of one hundred dollars in amount, not exceeding one thousand dollars, the legal tender for such debts shall be twenty-five per cent. thereof in silver coin of the United States as aforesaid, and seventy-five per cent. in gold coin of the United States as aforesaid.

SEC. 4. *And be it further enacted*, That for all debts exceeding one thousand dollars, for the first thousand thereof the payments may be made as is provided in the preceding sections and for the remaining sum fifteen per cent. may be paid in silver coin as aforesaid, and the remainder shall be paid in gold coins as aforesaid.

SEC. 5. *And be it further enacted*, That the gold and silver coins other than those of the United States, bearing the legalized impress of any sovereign state, shall also be receivable in payment of government dues, duties, and taxes at the exchequer, and in tender or payment of debts contracted by private individuals and payable in this kingdom at their value as fixed by the King in privy council, and published by the minister of finance.

SEC. 6. *And be it further enacted*, That silver coins to the value of twenty five cents or less shall be legal tender for all payments not exceeding ten dollars. But in all other cases whenever silver shall be paid in accordance with the preceding sections, coins of twenty-five cents and less may be paid at the rate of fifteen dollars to every hundred dollars so to be paid in silver.

SEC. 7. There shall be levied, collected, and paid upon all silver coins imported into this kingdom from any country with which His Majesty has not any treaty to the contrary, a duty of ten per cent. *ad valorem: Provided*, That this section shall not come into operation until a proclamation to that effect has been issued by His Majesty and with the advice and consent of a majority of his privy council at a duly-convened meeting thereof.

SEC. 8. *And be it further enacted*, That from and after the date of the passage of this act it shall be the duty of the minister of finance to require that all duties paid on imports shall be paid in gold coins of the United States, or its equivalent.

SEC. 9. *And be it further enacted*, That from and after the first day of March, eighteen hundred and seventy-seven, the interest on all government bonds shall be paid in the gold coin of the United States, or its equivalent, whensoever the interest on any one bond shall be or shall exceed five dollars, and when less than five dollars, shall be paid in silver coin as aforesaid.

SEC. 10. *And be it further enacted*, That from and after the first of March, eighteen hundred and seventy-seven, an act entitled "An act to regulate the currency," (Chapter XXVII of the Session Laws of 1872, approved the 29th day of July, 1872,) shall be utterly void and of no effect, as well as all other acts or parts of acts inconsistent with and contrary to the provisions of this act.

Approved this 19th day of September, A. D. 1876.

KALAKAUA R.

HOLLAND.

A.—Letter of minister of foreign affairs of Holland to American minister at the Hague.

B.—Letter from the master of the mint to the finance minister of Holland, replying to interrogatories C of commission.

B 1.—Coinage statistics of mint of Holland.

C.—Coinage of gold under act of June 6, 1875.

D.—List of laws and decrees appended.

E 1.—Law of June 6, 1875.

E 2.—Law of July 26, 1875.

F.—Letter of Minister Birney to Secretary of State.

G.—Letter of Minister Birney to Secretary of State.

A.

Letter of minister for foreign affairs of Holland to James Birney, minister resident.

[Translated from the French.]

THE HAGUE, *November* 17, 1876.

Mr. BIRNEY,
Minister Resident of the United States of America:

Fulfilling your desire, as expressed to me by note from your office of the 10th of October last, I have the honor to send you here inclosed, accompanied by many annexed papers, a note from the Mint College at Utrecht, relative to the money question in the Netherlands.

While transmitting to you these articles, which have been sent me through the intermission of the minister of finance, I permit myself to make an observation that they exclusively concern the fabrication of coin intended for use in the kingdom of the Netherlands in Europe. In case your government should be pleased to have also information concerning colonial coin, I will haste to ask my colleague of colonies to have the kindness to furnish you with them.

In the mean time you will permit me to remark, that the coin constituting the silver standard in the Netherlands forms equally, up to the present time, the basis of the money system of our possessions over the sea.

I beg you, sir, to accept assurance of my high consideration.

J. D. D. WILLEBOIS.

B.

Letter from College of the Mint at Utrecht, Holland, to the minister of finance, at the Hague, and forwarded through the minister for foreign affairs to the minister resident of the United States.

[Translation.]

MINT COLLEGE, UTRECHT, *November* 10, 1876.

His Excellency the MINISTER OF FINANCE:

The question of the monetary commission of the United States, inclosed in your excellency's letter of the 6th of this month, can be answered in general by the statement that those who order coin to be minted at Utrecht are at an average of six or seven days deprived of the use of their money if they order gold to be coined, and eight days if they desire silver.

The mint-master, however, is accustomed to send them a remise within that time after the reception of the metal. In this answer it is supposed that the offering of metal takes place in a time that the mint is in operation. Besides, it is to be remarked as a fact, that private persons never send such a great amount as a million of florins at one time to be minted over. This is only done by the Netherlands Bank. That has not to suffer loss of interest, because it is quite indifferent whether it has the metal in its vaults or in the mint of the empire. With full consideration, we are of the opinion that the question sent us

must be answered in that way because it seems to be the intention to know what loss of interest must be reckoned upon while the metal is at the mint. In making the answer dependent upon occurrent circumstances, as, for instance, if the demands for coinage are numerous and presented in small quantities, reference must be named to numerous particulars, the account of which would be superfluous; for the mint committee well perceives that special events need not be reckoned. To this belongs the non-operating of the mint. If at the reception of a demand all measures necessary for the running of the mint have to be put in order and the demand stands alone, then the delay will be longer. And when there is scarcity of metal, the time is sometimes increased.

When the minting process is regularly in progress, two millions and a half of golden and one million of silver florins are coined each week.

The Mint College, by order of—

LUTU LICAMA.*

M. H. van ASCHVAY WEYER.

B 1.

Coinage of the mint of Holland.

Year.	2½ gulden, (value.)	Gulden, (value.)	½ gulden, (value.)	¼ gulden, (value.)	1-10 gulden, (value.)	1-20 gulden, (value.)
	Florins.	*Florins.*	*Florins.*	*Florins.*	*Florins.*	*Florins.*
1842-'60	53, 430, 202 50	34, 769, 925 00	10, 412, 000 00	854, 000 00	173, 600 00	10, 400 00
1861 For the state	13, 230, 000 00	7, 400, 000 00	2, 600, 000 00	4, 000 00	4, 500 00	.....
1861 For special reckoning	.....	.....	.....	.....	.....	.....
1862 For the state	8, 122, 000 00	1, 102, 000 00	1, 701, 500 00	1, 500 00	2, 000 00	1, 000 00
1862 For special reckoning	495, 000 00	5, 000 00	.....	.....	.....	.....
1863 For the state	8, 650, 000 00	4, 506, 000 00	1, 677, 000 00	576, 000 00	124, 500 00	32, 500 00
1863 For special reckoning	902, 500 00	47, 500 00	.....	.....	.....	.....
1864 For the state	14, 000, 000 00	7, 000, 000 00	1, 700, 000 00	.....	.....	.....
1864 For special reckoning	5, 000, 000 00	2, 000, 000 00	.....	.....	.....	.....
1865 For the state	2, 725, 000 00	3, 014, 000 00	2, 005, 000 00	10, 000 00	4, 500 00	4, 500 00
1865 For special reckoning	400, 000 00	.....	.....	.....	.....	.....
1866 For the state	11, 186, 000 00	957, 000 00	793, 000 00	2, 000 00	1, 000 00	100 00
1866 For special reckoning	800, 000 00	.....	.....	.....	.....	.....
1867 For the state	14, 800, 000 00	300, 000 00	200, 000 00	.....	.....	.....
1867 For special reckoning	1, 800, 000 00	.....	.....	.....	.....	.....
1868 For the state	5, 430, 000 00	1, 007, 000 00	2, 003, 000 00	5, 000 00	2, 500 00	2, 500 00
1868 For special reckoning	600, 000 00	.....	.....	.....	.....	.....
1869 For the state	10, 325, 000 00	10, 000 00	2, 500 00	2, 500 00	5, 000 00	5, 000 00
1869 For special reckoning	820, 000 00	.....	.....	.....	.....	.....
1870 For the state	10, 075, 000 00	43, 456 00	.....	3, 500 00	5, 000 00	5, 000 00
1870 For special reckoning	570, 000 00	30, 000 00	.....	.....	.....	.....
1871 For the state	11, 950, 000 00	.....	.....	.....	.....	.....
1871 For special reckoning	.....	.....	.....	.....	.....	.....
1872 For the state	4, 800, 000 00	.....	.....	.....	.....	.....
1872 For special reckoning	1, 330, 000 00	150, 000 00	.....	.....	.....	.....
1873 For the state	20, 450, 000 00	500, 000 00	150, 000 00	.....	.....	.....
1873 For special reckoning	900, 000 00	30, 000 00	.....	.....	.....	.....
1874 For the state	.....	.....	.....	.....	.....	.....
1874 For special reckoning	1, 236, 075 00	.....	.....	.....	.....	.....
1875 For the state	4, 000, 000 00	.....	.....	.....	.....	.....
1875 For special reckoning	.....	.....	.....	.....	.....	.....
Total	208, 616, 777 50	62, 871, 881 00	23, 244, 000 00	1, 458, 500 00	322, 600 00	61, 000 00
During that lapse of time has been ordered back	8, 000 00	.....	.....	500, 023 75	104, 705 10	.....
Remainder or balance	208, 608, 777 50	62, 871, 881 00	.....	958, 476 25	217, 894 90	61, 000 00

* The manuscript is so illegible that these signatures are of doubtful orthography.
A. D.

C.

The minting of gold standard coin according to the law of June 6, 1875, as printed in the State Paper No. 117:

	Florins.
July 1 to December 31, 1875	41,100,000
January 1 to January 1, 1876	15,811,060
Total	56,911,010

The above-mentioned minting took place exclusively for private use. Since that time there has been no coinage.

D.

List of laws and decrees appended.

1. With these are delivered:

a. The law of November 26, 1847, (State Paper No. 69,) regulating the Dutch system of coin.

b. The law of June 6, 1875, (State Paper No. 117,) on nearer temporary regulating of the Dutch system of coin.

c. The royal decree of November 3, 1874, No. 31, regulating the instruction of the mint-master.

d. The royal decrees of November 19, 1857, (State Paper No. 115,) and of November 3, 1847, (Nos. 32 and 33,) relative to the mint-wages, &c., in minting silver.

e. The royal decrees of June 29, 1848, (State Paper No. 28,) and of June 26, 1875, (Nos. 42 and 43,) relative to the minting-wages, &c., in minting gold.

2. As in the Netherlands no gold or silver mines are found, the answering of the question concerning the yearly production is of no avail.

The ciphers concerning the yearly stamp of money and exportation are to be found in the included pieces, A, B, and C.

3. According to the observation on No. 2, the answering of this question is equally of no avail.

4. The mint is able to produce regularly every week a value of two and a half millions of florins gold coin; a value of one million of florins silver standard coin.

The answering of the question, How much time elapses between the sending in of the metal and the delivery of the pieces of coin made from it, naturally depends every time on various circumstances. As a fixed rule, may be admitted that a week elapses between both events.

5. Here included is to be found a complete exemplary of the bills presented to the House of Commons (Dutch Second Chamber) for the regulation of the Dutch system of coinage, accompanied by the documents.

6. As a review of what has happened in this country, of late years, concerning the system of coinage and may at the same time tend to an elucidation of the ciphers of minting of silver in the years 1873 and 1874, may be stated as follows: The minting of silver has been suspended from May 1, 1873, till May 1, 1874.

Of the re-opening of the occasion of minting silver has been made a very large use, exclusively by private persons, however, till January 1, 1875. From that moment the minting has been suspended till July 1, 1875, on which date the above-mentioned law of June 6, 1875 (State Paper No. 177) has been carried into effect.

This law must be amended before the 1st January, 1877.

To which end are tending the sub-mentioned bills No. 5.

E 1.

We, William III, King, &c., considering that a reasonable remuneration is due to the state for the use of its institutions for minting, if private persons cause new coin to be stamped for their own use on the proposal of our minister of finances of June 21, 1875, No. 115, (G. S.,) have approved and understood, with modification of the article 4 of our decree dated 5th October, 1849, No. 72, to determine:

ARTICLE 1. From the minting-wages that private persons are indebted to the mint-master by stamping for them golden pieces of ten florins, he is obliged to pay to the state previously—

a. For the first twenty millions of florins stamped of that coinage in a year, f. 0.50 per kilogram, made work.

b. In further minting of such coinage in the same year, f. 1 per kilogram, made work.

ART. 2. In case the wages of the journeymen coiners are abated, according to article 3 of our decree of to-day, No. 42, there will be a later stipulation regarding to the pay to the state.

ART. 3. Every three months the amount of the pay to be done by the mint-master is to be thrown in the state's treasury by intervention and under control of the mint-college.

ART. 4. This decree enters into effect July 1, 1875. Our minister of finances is charged with the execution of this decree, of which a copy will be sent to the general chamber of accounts for information.

Clarens, June 26, 1875.

WILLEM.

The minister of finances.

H. J. VANDER HEIM.

For copy. Conform.

The secretary-general of the ministry of finances.

BARSTRA.

E 2.

We, William III, by God's grace King of the Netherlands, Prince of Orange-Nassau, Grand Duke of Luxemburg, &c., attending to article 5 of the law of June 1, 1850, (State Paper No. 25,) and to our decree of June 26, 1875, No. 41, on the proposal of our minister of finances of June 21, 1875, No. 115, (G. S.,) have approved and understood to determine:

ARTICLE 1. In minting golden pieces of ten florins for reckoning of the empire, the wages previously amount per kilogram to—

a. For the first twenty millions of guilders stamped of such coinage, four guilders fifty cents, (f. 4.50.)

b. In further minting of such coinage in the same year, 4 guilders, (f. 4.)

ART. 2. The wages of the journeymen coiners, in making golden pieces of ten florins, either for reckoning of the empire or for private use, previously amount per kilogram to—

a. For the first twenty millions of guilders stamped of such coinage, one guilder twenty-five cents, (f. 1.25.)

b. In the further minting of such coinage in the same year, one guilder, (f. 1.)

ART. 3. In case of diminution of the present number of journeymen coiners, (13,) the wages stipulated in the preceding article will be regarded to be abated proportionately.

ART. 4. The wages of the journeymen coiners are paid out to them every week by the mint-master.

ART. 5. This decree enters into effect July 1, 1875.

Our minister of finances is charged with the execution of this decree, of which a copy will be sent to the general chamber of accounts for information.

Clarens, July 26, 1875.

WILLEM.

The minister of finances.

H. J. VANDER HEIM.

For copy. Conform.

The secretary-general of the ministry of finances.

BARTSTRA.

F.

LEGATION OF THE UNITED STATES,
The Hague, November 27, 1876.

SIR: Since inclosing to you my answers to the interrogatories proposed by the Monetary Commission of Congress, I have received through the minister for foreign affairs the reply of the directors of the Holland mint, accompanied by divers appendages. All the papers sent me in manuscript are translated into English, and are herewith inclosed. Of those in print I have made a separate package, and send them by the same mail.

On Friday last, the 24th instant, important legislation upon the same subject was enacted in the Staats-General here, the substance of which I proceed to describe, as the addition of it will make my answers more complete.

The monetary bill heretofore proposed by the government was passed by the Second Chamber, with the exception of the proviso for coining five-guilder pieces. It will no doubt be concurred in by the First Chamber.

Practically the bill establishes the golden standard. Although it does not deprive silver of its character as legal tender, yet it arrests all coinage of silver standard money, and authorizes the minister of finance to withdraw silver standard from circulation, when he deems it advisable to protect the stock of golden standard, to melt it, to sell it, and to purchase gold.

With regard to the Dutch East Indian colonies, the rule will be substantially the same, leaving it to the minister of finance to make proper arrangements with the colonial minister for the protection of the golden circulation.

A similar provision is under consideration for the Dutch West Indian colonies.

I have the honor to subscribe myself, your obedient servant,

JAMES BIRNEY.

Hon. HAMILTON FISH,
Secretary of State, &c., &c., &c.

G.

LEGATION OF THE UNITED STATES,
The Hague, December 23, 1876.

SIR: Referring to my dispatch of November 27, 1876, I described the substance of a bill then pending in the Staats-General relating to the

monetary question, which had, on the 24th of the same month, been passed by the Second Chamber, and expressed the opinion that it would be approved by the First Chamber.

I have now to add that a few days ago the bill came before the First Chamber and was non-concurred in. To-day the government offered a new bill, and which is in effect the law in force since June 6, 1875, but by its own terms requires renewal before the 1st of January, 1877.

I have the honor to be, your obedient servant,

JAMES BIRNEY.

Hon. HAMILTON FISH,
Secretary of State.

ITALY.

A.—Letter of Minister Marsh to Secretary of State.
B.—Replies to first four interrogatories B of commission.
C.—Letter of Minister Marsh to Secretary of State.
D.—Replies to remaining interrogatories B of commission.
E.—Letter of Minister Marsh to Secretary of State.
F.—Further reply to eighth interrogatory B of commission.
G.—Letter of Mr. Marsh to Secretary of State.
H 1 and 2.—Mining-laws of Italy. Omitted.
H 3 and 4.—Monetary laws of Italy.
H 5.—Monetary convention between Italy, Belgium, France, and Switzerland, Paris, December 23, 1865. Omitted.
H 6 to 9.—Monetary laws of Italy.
H 10 and 11.—Italian parliament documents on paper money. Omitted.

A.

LEGATION OF THE UNITED STATES,
Rome, November 27, 1876.

SIR: Referring to my dispatch No. 632, October 19, I have to express my regret that it has not been possible for me to forward any portion of the replies to the interrogatories of two circulars therein referred to before this date. The sources of information existing in the library and archives of the legation do not furnish the means of giving replies to any of the interrogatories, and in the shortness of the time allowed for obtaining them, I had no resource but to refer the queries addressed to the representatives of the United States abroad to gentlemen connected with the financial department of the Italian government. These gentlemen, as I remarked in the dispatch above referred to, were all much engaged in preparing documents to be submitted to Parliament, and I did not receive the replies, or any part of them, until Saturday last, the 25th instant.

I transmit herewith three sheets, containing so much of the information desired as I have yet been able to translate, and hope to forward the remainder in a couple of days. To save time, and because the answers furnished me are not official, I do not send a copy of the original of those answers, and I cannot even have a translation fairly copied without the loss of a post.

No reply has yet been received to the circular addressed to the officers of the mint. I shall lose no time in translating and forwarding the information which may be received, after it comes to hand.

I have the honor to be, sir, your obedient servant,

GEORGE P. MARSH.

Hon. HAMILTON FISH,
Secretary of State.

B.

LEGATION OF THE UNITED STATES AT ROME.

Replies to the interrogatories and request addressed to the representatives of the United States in foreign countries by the United States Monetary Commission, 1876.

Interrogatory 1. Has any change taken place in the country to which you are accredited in the relative value of gold and silver during the past fifteen or twenty years?

Reply 1. Italy, it may be said, has no mines of gold and silver, and consequently, in the want of local production, has not an important traffic in these precious metals. Hence the supply for manufacturing purposes is imported in small quantities, and the price paid for it is rather that of the countries where it is purchased than that of a national market.

It may be assumed, however, that for domestic consumption the value of gold is invariably 3,437 lira per kilogram of fine metal, while that of silver has fallen in the years 1874–1876 according to the rate in other countries.

Interrogatory 2. If so, what has been the nature and extent of such change?

Reply 2. The value of silver, at first established at 220.50 lira per kilogram of fine metal, gradually fell to 180, (the minimum reached in the summer of 1876,) and gradually rose again to its present rate of about 200 lira.

A. Give the average annual value of pure silver in pure gold, or of pure gold in pure silver, or their equivalents in "standard" gold or silver, in such country. If no regular sales have been effected or recorded, upon which to base a precise calculation, give the relative value of pure silver and pure gold approximately.

a. During the last fifteen years, while the value of pure gold has maintained itself at 3,437 lira per kilogram, the annual average of the value of pure silver per kilogram has been as follows:

From 1862 to 1873*	lira, 220.50
1874	218.88
1875	211.55
1876	199.35

These rates are those paid to sellers generally for alloys of the precious metals, (chiefly old gold and silver.)

Thus the value of a kilogram of pure gold equals, on the average:

	Kilograms.
From 1862 to 1873	15.587 pure silver.
In 1874	15.703 pure silver.
In 1875	16.247 pure silver.
In 1876	17.246 pure silver.

* In 1862 and in 1863 there was a premium of 3 per cent. on the value of silver at 220.50 lira.

And the value of a kilogram of pure silver equals, upon the average:

	Kilograms.
From 1862 to 1873	0. 064, 153 pure gold.
In 1874	0. 063, 683 pure gold.
In 1875	0. 061, 551 pure gold.
In 1876	0. 058, 001 pure gold.

B. What metal or metals constitute the standard of value in such country? In other words, in what metal, gold or silver, or both, can debts of the largest sums be legally discharged? If in both, or either, state the legal relation or equivalent established between the two precious metals and any change or changes which have been effected in such legal relation during the present century.

b. The unity of Italy having been established, one of the first necessities felt in the new kingdom was its monetary unification. Provision was made for this by the promulgation of the law of the 24th of August, 1862, No. 788, by which was decreed the withdrawal from circulation of all coins used in the different provinces forming any of the old Italian states, and the use of coins on the French decimal system—a system already prevailing in the Sardinian States and in that of Parma and Placentia—was extended to the whole kingdom.

From that period Italy has aimed to establish for its coinage the single standard of gold, and though the two standards, gold and silver, were admitted by the law above referred to, yet the sixth article prescribed that silver five-lire pieces, of fineness of $\frac{900}{1000}$, should be coined only for account and at the request of private persons. The state having thus renounced the right of striking silver coins on its own account, the bullion derived from the withdrawal of the old silver coinage from circulation was sold by it to the administration farming the mints, which sent it abroad and exchanged it for gold.

The corso forzoso (obligatory circulation or legal tender) of banknotes having been introduced in Italy in consequence of the war of 1866, the National Bank of the Kingdom, then farming the exercise of the mint, prompted by the necessity of replenishing its reserve, employed the silver furnished by the state from the old withdrawn currency, to coin on its own account, and in quality of a private person, new silver pieces.

Finally, by the law of 17th July, 1875, No. 2651, article 2, authority was given to the royal government to suspend temporarily the application of the sixth article of the above-cited law of the 24th August, 1862, so far as relates to the prohibition to coin silver five-lire pieces of the fineness of $\frac{900}{1000}$, except on account of private persons.

The double standard, then, gold and silver, each of the fineness of $\frac{900}{1000}$, prevails in Italy. And as the coinage in both these metals, of the fineness just mentioned, has currency as a legal tender without any restriction, whether in the way of payment of ordinary debts or satisfaction of taxes and imports, there is no room for a comparison of the respective value of the two.

C. What quantity of silver and gold, respectively, is estimated to be in such country in the form of coin or bullion? And what portion of the coins are subsidiary? And for what amount are such subsidiary coins a legal tender in the payment of debts?

c. By virtue of the provisions of the law of the 24th August, 1862, the five hundred millions of silver coin of former systems, withdrawn from circulation, should have been replaced by an equal sum in gold coins, in addition to those already in circulation in the kingdom, while

the coinage of silver money should have been confined within narrower limits. But for the reasons adduced in the preceding paragraph (*b*) the proportions between the coins of the two metals have been considerably modified, and consequently the amount of gold coined in Italy from 1862 to the present time is only £480,000,000, and that of silver money, in five-lire pieces, coined during the same period, is £324,000,000. The amount of gold and silver in bullion is insignificant.

Over and above the coinage just stated there are fractional (subsidiary) pieces of silver, of the fineness of $\frac{835}{1000}$, to the amount of one hundred and fifty-six millions of lire. These coins are not a legal tender in ordinary payments to an amount above fifty lire; but the public offices receive them without limitation.

D. What quantity is estimated to exist in the form of plate, jewelry, or other articles susceptible of being converted into coin?

d. We are not in possession of statistical data, or other information, on this point, sufficient for warranting even an approximate estimate.

E. What sums of paper notes, government, bank, and individual, severally, are there estimated to be in circulation as money in such country? Are they legal tenders or not? And if they are, to what extent are they legal tenders? For all classes of debts or payments, or only for some classes? Are they convertible at the option of the holder into coin, and, if not, what is their present relation of market-value to the metal standard?

e. By the law of the 30th of April, 1874, No. 1920, the emission and circulation of paper money, serving the purpose of metallic coinage, was regulated. Six principal institutions of credit, namely, the National Bank of the Kingdom of Italy, the Roman Bank, the Bank of Naples, the Bank of Sicily, the National Tuscan Bank, and the Tuscan Bank of Credit, were authorized to form a consorzio, or joint association, with the privilege of issuing £1,000,000,000 in notes styled consorziali, or associate, mutually guaranteed by the consorzio and by the state. These notes have the corso forzoso, or obligatory currency, (are a legal tender,) throughout the kingdom, and it was by a corresponding issue of the same that the state extinguished its then existing debt to the National Bank of the Kingdom of eight hundred and forty millions of lire in its notes.

Further, these institutions were authorized to issue, within certain limits and on special conditions, their own notes, upon the sole guarantee of the institution issuing them; and these notes have legal currency, (corso legale.)

Down to 1874 there was in circulation in Italy a considerable amount in bills of small denominations, issued by less important institutions, as popular banks, workmen's banks, savings-banks, introduced into the currency at the commencement of the corso forzoso (in 1866?) to supply the want occasioned by the sudden disappearance of fractional silver and bronze coins, and which had maintained and even extended their circulation. Against this abuse provision was made by the above-mentioned law, which forbids the circulation of individual notes not having legal currency.

The amounts now in circulation are as follows: Governmental paper issues, notes of ten consorzio, £940,000,000; bank-paper issues, notes having legal currency, £610,000,000. There are no individual or private paper issues, the circulation of such, as was remarked above, being forbidden.

The notes of the consorzio have obligatory circulation (are a legal tender) throughout the kingdom, and supply the place of coin. The

special notes of the six banks above mentioned have legal but not obligatory currency, only in the localities where the respective banks are situated or have branches.

Under these conditions, the notes of both descriptions may be lawfully offered in sums of any amount, and for every species of debts, except in payment of duties of entrance, (di confine,) which must be paid in gold or silver coin.

The notes of the consorzio are inconvertible; those having legal currency are convertible in notes of the consorzio at the option of the holder.

Paper money, as compared with metallic, is at present at a discount of 9.70 or thereabouts.

F. What has been the annual product of the mines of gold and silver, in such country, during the present century?

f. As was said above, mines of gold and silver hardly exist in Italy, and consequently the production of these two precious metals has no importance.

Interrogatory 3. To what causes are attributable the changes that have taken place in such country in the relative value of gold and silver?

Reply 3. The changes which have occurred in the relative value of gold and silver are attributable to various causes, which have influenced the market-value of these metals in almost all other countries as well as in Italy. Among the most important of these may be mentioned the introduction of a single monetary standard in Germany, consisting in gold, and the consequent demonetization of silver in that country; the discovery of new mines of the latter metal and the increased product of old mines in the United States of America, and, in fine, the stagnation in the English market for some time past, in consequence of the diminished demand for silver for exportation to the British possessions in the Indies.

Interrogatory 4. Are these causes regarded as permanent, or is it believed to be likely that they will ultimately be overcome by the relative cost of producing or procuring the precious metals, or by other influences or considerations?

Reply 4. Some of these causes must necessarily be considered as transient, and among them is the demonetization of silver in Germany. We cannot, however, consider, with equal reason, as transient causes of the diminished value of silver the increased product of new or old mines, inasmuch as the increased production of silver, although it may at any time be reduced, can hardly cease altogether; and for the present it cannot be expected that it will be compensated by an increased production of gold. The demand for silver for the British possessions in India has at all times been subject to a periodical stagnation followed by a reaction. Such a reaction has very recently began to be felt, and allows us to believe that the East may still serve as an outlet for the excess of the supply of silver in Europe and America.

Interrogatory 5. What effect, if any, have such changes in the relative market-value of gold and silver had upon the trade, commerce, finance, and productive industries of such country, and upon its legal standard of value, or the legislation or measures of government connected therewith? [See continuation of replies below, marked D.]

C.

LEGATION OF THE UNITED STATES,
Rome, November 29, 1876.

SIR: Without waiting for the further information asked in reference to interrogatory 8, which I hope to receive in a day or two, I transmit herewith two sheets, containing pp. 13–20, of the replies to the interrogatories addressed by the United States Monetary Commission, 1876, to the representatives of the United States abroad.

I have the honor to be, sir, your obedient servant,

GEORGE P. MARSH.

Hon. HAMILTON FISH,
Secretary of State.

D.

Reply 5. The existence of the two standards, gold and silver, as coins with a fixed legal relation, has neutralized in Italy the effects of the variations which have taken place in the relative commercial value of these two metals. In the payment of considerable sums in metallic currency the payer would naturally endeavor to discharge his obligation in the metal having the lowest actual price. But as the receiver of such payments has always known that he could employ either coin at its legal and integral value, the acceptance of it has never practically been attended with any difficulty. In fact, the very necessity of procuring gold and silver from abroad has often given the preference to the former, the greater cost of which has, in many cases, been compensated by its greater facility of transport and the smaller expense of packing and delivering it, on account of its greater density.

For these reasons, commerce, ordinary business, the finances, and productive industry in Italy have experienced no inconvenience from the fluctuations which have occurred in the commercial value of the two precious metals, nor has a necessity been hitherto felt of introducing any modification in the legal standard of these metals, or in the legislative or governmental action in respect to them.

Interrogatory 6. Upon what terms of seigniorage or brassage are gold and silver bullion, respectively, coined in such countries? Are there any legal limits, and, if so, what are they, to the coinage of either gold or silver? Does the government monopolize the coinage, or are private mints permitted? Are gold or silver coins of other countries imported and permitted to be used as legal tender; and, if so, at what rates? Are gold and silver coins manufactured for and exported to other countries? Are any subsidiary coins or coins whose emission is limited by law or regulation, imitated and introduced surreptitiously into the country to which you are accredited; and, if so, to what estimated amounts?

Reply 6. By a royal decree of December 12, 1861, it was provided that the price to be paid per kilogram of fine gold delivered to the mint should be 3,437 lire in gold coins composed of 900 parts fine metal and 100 of alloy; and the price per kilogram of fine silver was fixed at 220.50 lire in silver coin composed of 900 parts fine and 100 alloy. But from the year 1874 the price of the latter metal underwent the variations indicated in section 2, though the proportion of alloy in the coin remained constant at $\frac{100}{1000}$.

There is no limitation to the coinage of gold pieces, as there was none

to that of silver down to 1874, when, in concurrence with the other states of the monetary union, a limit to be fixed from year to year was adopted for five-lire pieces of silver of the fineness of $\frac{900}{1000}$. (See the statutes of the 30th August, 1874, No. 2065; 17th July, 1875, No. 2651; and the royal decree of the 26th April, 1876, No. 3068.) The limit established for the current year, 1876, is £36,000,000.

By virtue of the royal decree of the 20th October, 1861, No. 288, the exercise of the royal mints was farmed for twelve years to the National Bank of the Kingdom of Italy. This arrangement was extended for another year at the expiration of the contract, but finally terminated on the 31st of December, 1874. From the 1st of January, 1875, the only mint exercising the functions of coinage in Italy has been that of Rome, conducted by the government on its own account, and under official administration.

According to the provisions of the ninth article of the law of the 24th of August, 1862, No. 788, foreign gold and silver coins of the fineness of $\frac{900}{1000}$, and conforming to the system (of denominations) thereby established, have legal and unrestricted currency in Italy; as, by virtue of the convention of Paris of December 23, 1865, incorporated into the law of the 21st of July, 1866, No. 3087, the fractional (subsidiary) coins struck by France, Switzerland, Belgium, and Greece have legal currency; but the acceptance of these fractional coins by the public offices is limited to sums not exceeding £100.

Hitherto it has not happened that the Italian mints have had occasion to manufacture and export gold and silver coin for foreign countries; but nothing would forbid such a proceeding if occasion for it should offer.

Nor does it appear that subsidiary coin, or pieces the emission of which is limited by law, have been clandestinely imitated and introduced into the kingdom.

Interrogatory 7. State the annual imports and exports of coin and bullion.

Reply 7. The amount of coin and bullion annually imported during the last six years, calculated at their actual value, will appear from the following table taken from the documents "Commercial movements in the kingdom of Italy," annually published by the ministry of finance, (general direction of duties, [Gabelle,]) sums in lire.

Years.	Gold and silver coin.		Gold and silver bullion.	
	Imported.	Exported.	Imported.	Exported.
1871	610, 735	9, 021, 611	1, 631, 200	1, 848, 430
1872	4, 033, 021	1, 438, 478	1, 000, 700	3, 500, 200
1873	863, 305	8, 670	24, 620, 000	1, 757, 100
1874	4, 692, 463	5, 813, 406	4, 711, 200	1, 446, 700
1875	6, 566, 245	10, 137, 141	2, 161, 600	1, 364, 990
1876 to September 30	2, 923, 567	4, 971, 378	14, 612, 800	1, 891, 159

Interrogatory 8. Upon what terms is the mining of the precious metals permitted? Is there a limit, legal or customary; and, if so, what is it, to the area which a miner may occupy or work? Is such mining taxed; and, if so, to what extent? Are gold and silver taxed in any other way than in production or coinage; and, if so, to what extent? Are such taxes evaded in practice; and, if so, to what estimated extent?

Reply 8. As we have already more than once observed, Italy being almost wholly without mines of gold and silver, mining industry has

never called for legislative measures of interest to statisticians, and such as have been resorted to in countries where, by reason of the importance of such mines, it has been necessary to regulate the search for mines and the working of them by special legislation.

Gold and silver, whether in bullion, or in jewelry, plate, and other manufactured articles, if broken, are exempt in Italy from any duty on importation or exportation.

Interrogatory 9. Make such reference to authorities and transmit such publication or other documentary or other evidence as will support the replies given, or tend to afford the commission further information on the subject.

Reply 9. On the 26th of May and the 12th of August, 1876, the ministry of finance (general direction of the treasury) communicated to the ministry of foreign affairs, at the request of the minister of the United States at Rome, various details of information, accompanied by copies of laws and decrees relating to coinage, most of which are referred to in the foregoing replies, to which they may serve for illustration.

The foregoing replies to the interrogatories addressed by the United States Monetary Commission, 1876, to the representatives of the United States abroad, are translated from notes unofficially furnished to this legation by gentlemen connected with the administration of the public finances.

The replies seem to me in general sufficiently full and clear, but it may not be amiss to observe:

a. That the Italian lira, generally expressed by the character £, is the exact equivalent of the French franc.

b. That the expression corso forzoso, as used in Italy, corresponds as nearly as the idioms of the two languages permit to our legal tender. Corso legale (reply to Interrogatory 2 C, and elsewhere) signifies merely circulation as permissible currency; that is, paper money which may be offered and accepted—without violation of law, as lawful currency, though not a legal tender—in discharging debts or for goods purchased or services performed. It is, in short, the equivalent of the ordinary bank-notes circulated in the United States before the law of Congress gave paper the current value of coin.

c. The guarantee, by the associate banks, (consorzio,) of the notes of these banks or that of the same by the government, does not make those notes presently, or at any fixed future date, convertible into coin, but pledges the resources of the consorzio and the faith of the state for their ultimate redemption in specie, when the corso forzoso shall cease. (Reply to Interrogatory 2 E, first paragraph.)

d. The reply to Interrogatory 8 does not sufficiently define what I understand to be the law of the right of search for ores and minerals in Italy, and of working mines of the precious metals or other mineral substances. I have asked further information.

E.

LEGATION OF THE UNITED STATES,
Rome, December 2, 1876.

SIR: I have the honor to inclose herewith two sheets, containing additional information furnished me, by way of appending to reply to Interrogatory 8 of the series addressed by the United States Monetary Commission of 1876 to the representatives of the United States abroad.

The replies are now complete. On Monday, the 4th instant, I shall forward to the State Department the printed documents referred to in the replies as far as I have been able to procure them

I am, sir, your obedient servant,

GEORGE P. MARSH.

Hon. HAMILTON FISH,
Secretary of State.

F.

Since the foregoing sheets were prepared I have received the following information, by way of appendix to the reply to Interrogatory 8. I think it well to premise that though the production of the precious metals in Italy is too insignificant to have importance as a source of supply of those metals for the national coinage, yet gold-mines have long been worked on a small scale in the Val Angasca and other localities in Northern Italy; that gold has been found in masses of a rare form and constitution in the copper-mines of Tuscany, and that sufficient silver to warrant the construction of works for its separation and refining occurs in mines of copper and other base metals in the island of Sardinia.

The quantity of precious metals produced in Italy being very small, there are no laws specially applicable to mines of gold and silver, and they are embraced in the general provisions of the legislation relating to mining operations. The laws of the former states which now compose the kingdom of Italy are still in force, and have not been reduced into a code or otherwise harmonized, but, though differing in matters of detail, they agree in recognizing the principle that the rights of property in the superficial soil are distinct from those of ownership in the subterraneous strata. Hence the right of disposing of mines, invito possessore roli, is reserved to the sovereign.

In the provinces of the former Sardinian States, as well as in those of Lombardy, the Marches, and Umbria, the law of Sardinia of 1859, No. 3755, is in force. This law distinguishes between mines containing in veins, beds, or masses, metallic ores, sulphur, various sulphates, bitumens, asphaltum, fossils, coal, lignite, &c., and the working of peat, and pits of sand and metalliferous earths, stone, marl, porzalana, quartz, and generally all minerals not embraced in the first category.

Mines cannot be worked except by a grant from the sovereign power, and from the granting of a mine it constitutes an estate distinct from that in the superficial soil, and like it may be mortgaged, pass by descent, &c., but cannot be sold in portions or divided without the permission of the government. If abandoned, it reverts to the state, which may sell it to the proprietor of the land, or regrant it to another.

The proprietor of the surface has no other right to a mine than those which the law grants to him as well as to all other citizens, except the compensation due to him for damage to his property in the search for minerals or the working of mines; and he may demand from the searcher or the miner a guarantee or a deposit in money or public securities to cover such damage.

Grants of mines are not issued for a greater extent of ground than 400 hectares, but the same grantee may obtain concessions for several parcels of land contiguous to each other, each concession being limited to 400 hectares.

Besides various obligations connected with the administration of the

mine, the police, &c., the grantee pays to the state a fixed tax of half a lira (fifty centimes) per year on each hectare of the grant. There was formerly a tax of five per cent. on the product, but at present mines are subject only to the same tax (imposta disicchezza mobile) as other sources of income from personal property, professions, and productive industry and the like.

Peat-beds, pits, &c., embraced in the second category, can be worked only by the proprietor of the soil, or with his consent; but even in this case, application must be made to the competent authority which, in the interest of the public health, determines the conditions and obligations to which the proposed undertaking shall be subjected.

In the Venetian provinces the Austrian law of the 23d May, 1854, prevails; in those of Parma, the legislative provisions respecting mines, sanctioned by the five hundred and seventy-sixth article of the civil code of Parma, and the decree of the Duke Carlo III, dated 21st June, 1852, are still in force; in the territory of Este, the Napoleonic law of the 9th August, 1808, prevails; in that of Rome the old pontifical laws have been maintained in this respect, but are more precisely defined by the royal decree of June 17, 1872. In the Neapolitan provinces, including the island of Sicily, mining industry is regulated by the law of the Bourbon dynasty of the 17th October, 1826, with some exceptions specially applicable to the saltpeter or sulphur deposits of Sicily.

Although these laws agree in their general principles, it should be noticed that the decree of Charles III of Parma does not distinguish between mines proper and pits, but subjects both to the same regulations, and that the Neapolitan of October 17, 1826, allows larger rights to the proprietor of the soil, who may open and work mines on his own land, without a governmental grant, though, if he be not able or not disposed to work such mines, the Government may grant them to others.

Tuscany alone, of all the provinces of Italy, departs widely from the principles above stated. The Tuscan law relative to mines is still that established by the sovereign Motoproprio, promulgated by the Grand Duke Leopold the 13th May, 1788, by the provisions of which the exaction of a royalty, and all rights of the nature of monopoly, are abolished, and every one is free to search for and to work mines and pits, of whatever nature, on his own land, or on that of another with the consent of the proprietor, observing always the police regulations relating to mines and pits in the neighborhood of public highways. These provisions, however, do not extend to the iron-mines of the island of Elba, which belong exclusively to the State, but are controlled and worked by a private company.

GEORGE P. MARSH.

G.

LEGATION OF THE UNITED STATES,
Rome, December 4, 1876.

SIR: Referring to my dispatch No. 547, dated December 2, 1876, I have to report that I forward by this post—

H 1.—*Repertorio delle Miniere*, serie 2, vol. i, of which pp. 1 *et seq.*, 84 *et seq.*, 99 *et seq.*, 162 *et seq.*, 183 *et seq.*, 245 *et seq.*, 294 *et seq.*, are cited in the replies to the interrogatories addressed by the United States

monetary commission of 1876 to the representatives of the United States abroad.

H 2.—*Repertorio delle Miniere*, serie 2, vol. ii., of which pp. 218 *et seq.*, 252, 253 *et seq.*, 288, 289 *et seq.*, 315 *et seq.*, are cited in the same document.

Sheets (printed) containing—

H 3.—The royal decree of the 12th December, 1861, No. 370.

H 4.—The law of 24th August, 1862, No. 788.

H 5.—The law of 21st July, 1866, No. 3087.

H 6.—The law of 30th August, 1874, No. 2065.

H 7.—The law of 17th July, 1875, No. 2651.

H 8.—The law of 26th April, 1876, No. 3068.

H 9.—The law of 30th April, 1874, No. 1920; all cited as above.

H 10.—Report on the Corso Forzato.

H 11.—Report on the paper-circulation in Italy, both by the ministers Minghetti and Finali, not cited, but referred to verbally as containing important information.

It is obviously impossible for me to translate those documents within the time at my disposal, and I send the originals only.

I should be gratified to receive a few extra copies of any reports or other documents on this subject published by Congress, for presentation to the gentlemen who have furnished me information.

I have the honor to be, sir, your obedient servant,

GEORGE P. MARSH.

Hon. HAMILTON FISH,
Secretary of State.

H 3.

Regio decreto che determina le ritenenze a farsi dalle zecche dello stato per la fabbricazione delle monete, e per l'affinazione e partizione dei metalli, 12 *dicembre* 1861.

Vittorio Emanuele II, per grazia di Dio e per volontà della nazione Re d'Italia.

Veduto il regio decreto del 20 ottobre 1861;

Veduti gli articoli 5 e 9 del decreto del ministro di agricoltura, industria e commercio del 21 ottobre scorso;

Veduto l'art. 42 del capitolato per l'appalto della fabbricazione delle monete autorizzato col regio decreto sopracitato;

Sulla proposizione del ministro d'agricoltura, industria e commercio, abbiamo ordinato ed ordiniamo quanto segue:

ARTICOLO UNICO.

È approvata la tariffa annessa al presente decreto, vista d'ordine nostro dal ministro di agricoltura, industria e commercio, nella quale sono stabilite le ritenenze a farsi dalle zecche dello stato del corrispettivo delle spese per la fabbricazione delle monete di oro e di argento, per l'affinazione e partizione dei metalli, ed è determinato il prezzo dell'oro e dell'argento da pagarsi ai portatori di paste o materie preziose.

Ordiniamo che il presente decreto, munito del sigillo dello stato, sia inserto nella raccolta ufficiale delle leggi e dei decreti del regno d'Italia, mandando a chiunque spetti di osservarlo e di farlo osservare.

Dato a Torino addì 12 dicembre 1861.

VITTORIO EMANUELE.

Registrato alla corte dei conti addì 16 dicembre 1861. Reg° 18, atti del governo a c. 210.

WEHRLIN.

(LUOGO DEL SIGILLO.) CORDOVA.

V. Il Guardasigilli MIGLIETTI.

Tariffa delle ritenenze da farsi dalle zecche dello stato a cominciare dal 1° gennaio 1862 per la fabbricazione delle monete, per l'affinazione e per la partizione dei metalli.

ART 1.

La ritenenza per la fabbricazione delle monete sarà:

Sull'oro, per ciascun chilogramma di fino.....	L. 7. 44. 444
Sull'argento id	1. 72. 222

Per conseguenza il prezzo dell'oro e dell'argento da pagarsi ai portatori di paste sarà:

Per ciascun chilogramma d'oro fino.....	3437. 00
Per ciascun chilogramma d'argento fino.....	220. 50

ART 2.

La ritenenza per la sola affinazione dell'oro non misto con argento, e dell'argento senza oro sarà:

1° Per l'oro senza argento ed inferiore al titolo di 898 millesimi, per ciascun chilogramma di porzione affinabile L. 5.00.

2° Per l'argento senz'oro ed inferiore al titolo di 898 millesimi per ciascun chilogramma di porzione affinabile L. .90.

ART. 3.

La ritenenza per l'affinazione e partizione dei *dorati*, ossia delle paste miste d'oro e d'argento sara:

1° Pei *dorati* contenenti più di 150 millesimi d'oro, per ciascun chilogramma in lega L. 5.00.

2° Pei *dorati* contenenti 150 millesimi d'oro o meno, per ciascun chilogramma in lega L. 1.50.

N. B.—I titoli delle materie preziose saranno espressi in millesimi ed in frazioni di millesimo, delle quali frazioni si terrà conto ai portatori di paste.

La fusione delle verghe d'oro e d'argento o di dorato non è obbligatoria nelle officine di zecca, potendosi le medesime spezzare o perforare per verificare l'omogeneità della pasta e del titolo.

Qualora però d'accordo fra le parti si dovesse procedere alla fusione di verghe nelle officine monetarie, la ritenenza per questa sola operazione non portrà eccedere per ciascun chilogramma di materia L. 50.

Visto d'ordine di S. M.

Il ministro d'agricoltura, industria e commercio,

CORDOVA.

H 4.

Legge sull'unificazione del sistema monetario, 24 agosto 1862.

Vittorio Emanuele II, per grazia di Dio e per volontà della nazione Re d'Italia.

Il Senato e la Camera dei Deputati hanno approvato, noi abbiamo sanzionato e promulghiamo quanto segue:

TITOLO I.

ART. 1.

Le zecche dello Stato coniano le seguenti monete:

		Peso.	Tolleranza per pezzo in più o in meno.
ORO.			
Pezzo di lire 100	grammi	32,258.00	milligrammi 32.26
" 50	"	16,129.00	" 16.13
" 20	"	6,451.61	" 12.90
" 10	"	3,225.80	" 6.45
" 5	"	1,612.90	" 4.84
ARGENTO.			
Pezzo di lire 5	"	25,000.00	" 75.00
" 2	"	10,000.00	" 50.00
" 1	"	5,000.00	" 25.00
" " 50	"	2,500.00	" 17.50
" " 20	"	1,000.00	" 10.00
BRONZO.			
Pezzo di cent.mi 10	"	10,000.00 } 1 per cento.	
" 5	"	5,000.00 }	
" 2	"	2,000.00 } 1½ per cento.	
" 1	"	1,000.00 }	

ART. 2.

Le monete d'oro e il pezzo d'argento di L. 5 sono al titolo di millesimi 900, colla tolleranza di due millesimi in più od in meno.

ART. 3.

I pezzi di una e due lire, di venti e cinquanta centesimi sono al titolo di 835 millesimi, colla tolleranza di 3 millesimi in più od in meno.

ART. 4.

La lega delle monete di bronzo è fissata nella proporzione di 960 millesimi di rame e 40 millesimi di stagno, colla tolleranza di 5 millesimi in più od in meno per ciascuno dei due metalli.

ART. 5.

La fabbricazione delle monete contemplate negli articoli 3 e 4 non può aver luogo se non nei limiti determinati da leggi speciali.

ART. 6.

I pezzi da lire 5 di argento al titolo di 900 millesimi non si conieranno se non per conto e sopra domanda dei privati, ed avranno corso legale a pari delle monete d'oro.

ART. 7.

Niuno è obbligato a ricevere nei pagamenti una somma maggiore di lire cinquanta in monete divisionarie d'argento, le quali sono invece senza alcun limite ricevute nelle pubbliche casse.

La moneta di bronzo può essere impiegata nei pagamenti soltanto a compimento delle frazioni di lira.

ART. 8.

Le monete avranno nell'impronta "l'effigie del Re" e la leggenda "Regno d'Italia" o "Re d'Italia."

Le altre condizioni delle impronte e il diametro di ciascuna specie delle monete saranno da stabilirsi dal governo con decreto reale.

ART. 9.

Il governo può con decreto reale ammettere in corso legale nello stato monete estere delle specie contemplate nell'art. 2 e 6 purchè coniate secondo il sistema stabilito dalla presente legge.

ART. 10.

Le monete calanti oltre la tolleranza determinata dalla legge, e tutte quelle tosate, bucate, sfigurate e logore per modo che non ne sia più riconoscibile l'impronta da entrambi i lati o da un solo, sono escluse dal corso, e ricevute solamente come pasta negli uffici di cambio delle zecche.

ART. 11.

Nei contratti e negli atti pubblici, nei registri di contabilità delle pubbliche amministrazioni, e in ogni altro libro o documento che riguardi gli interessi del pubblico, i valori devono essere calcolati ed espressi in lire e centesimi della moneta italiana.

Ogni contravvenzione commessa da un ufficiale pubblico alla disposizione di questo articolo è punita colla multa di lire 50.

Una medesima obbligazione di esprimere i valori in lire e centesimi della moneta italiana è estesa a tutte le scritture private a datare dal 1° gennaio 1863.

I contravventori sono soggetti ad una multa da lire 5 a lire 50.

ART. 12.

Il governo provvederà con decreto reale al ritiro e cambio di tutte le monete d'oro, d'argento, di bilione e di rame di conio italiano a sistema diverso da quello stabilito nella presente legge, e farà cessare il corso legale di tutte le monete estere egualmente a sistema diverso dal nazionale che trovansi attualmente in circolazione nelle varie provincie del regno.

Il ritiro delle monete si farà al loro valore legale, salvo le eccezioni per le monete calanti, sfigurate o logore che sono contemplate dalle stesse leggi che sono attualmente in vigore.

ART. 13.

Per sopperire alla spesa di ritiro, cambio e conversione in moneta decimale delle monete d'oro, argento ed eroso-misto a sistema diverso, è

autorizzata la spesa di lire 18,466,350 da stanziarsi nel bilancio passivo del ministero d'agricoltura, industria e commercio per una terza parte a carico del corrente esercizio, e pel rimanente sull' esercizio 1863 sotto apposito capitolo colla denominazione, spese pel ritiro, cambio e conversione in moneta decimale delle monete non decimali d'oro, argento ed eroso-misto di conio italiano.

Alla spesa di ritiro e cambio delle monete di rame sarà provveduto colla legge stessa che ordinerà la fabbricazione dei nuovi pezzi di bronzo di dieci centesimi.

ART. 14.

È abrogata qualunque disposizione vigente in opposizione ai precedenti articoli.

TITOLO II.

ART. 15.

È autorizzata la fabbricazione e la emissione di una somma nominale di centocinquanta milioni di lire in monete divisionarie di argento, secondo il sistema stabilito dalla presente legge.

ART. 16.

Il governo determinerà con decreto reale la quantità proporzionale di ciascuna specie di tali monete.

ART. 17.

Alla spesa relativa sarà provveduto coi fondi assegnati al ministero di agricoltura, industria e commercio dal precedente art. 13.

TITOLO III.

ART. 18.

È autorizzata la fabbricazione e la emissione di monete di bronzo secondo il sistema stabilito dal reale decreto 20 novembre 1859, n.° 3773, e dalla legge del 6 agosto 1862, n° 737, per un valore nominale di otto milioni.

ART. 19.

Per supplire alla spesa relativa ed a quella di ritiro della vecchia moneta di rame sarà aumentato di lire 5,325,000 e ripartito in eguale proporzione il fondo stanziato nei capitoli 74 e 75 del bilancio passivo del ministero di agricoltura, industria e commercio per lo esercizio del 1862.

Ordiniamo che la presente, munita del sigillo dello stato, sia inserta nella raccolta ufficiale delle leggi e dei decreti del Regno d'Italia mandando a chiunque spetti di osservarla e di farla asservare come legge dello stato.

Dat. a Torino addi 24 agosto 1862.

VITTORIO EMANUELE.

(LUOGO DEL SIGILLO.) GIOACHINO PEPOLI.

V. Il Guardasigilli R. CONFORTI.

H. 6.

Legge colla quale è data esecuzione alla convenzione monetaria fra l'Italia, il Belgio, la Francia e la Svizzera, 30 agosto 1874.

Vittorio Emanuele II, per grazia di Dio e per volontà della nazione Re d'Italia.

Il Senato e la Camera dei Deputati hanno approvato, noi abbiamo sanzionato e promulghiamo quanto segue:

ARTICOLO UNICO.

Il governo del Re è autorizzato a dare piena ed intiera esecuzione alla convenzione monetaria fra l'Italia, il Belgio, la Francia e la Svizzera, sottoscritta a Parigi il 31 gennaio 1874 e le cui ratifiche furono ivi scambiate il 7 agosto 1874.

Ordiniamo che la presente, munita del sigillo dello stato, sia inserta nella raccolta ufficiale delle leggi e dei decreti del Regno d'Italia, mandando a chiunque spetti di osservarla e di farla osservare come legge dello stato.

Dato a Torino addì 30 agosto 1874.

VITTORIO EMANUELE.
VICONTI-VENOSTA.
M. MINGHETTI.

(LUOGO DEL SIGILLO.)
V. Il Guardasigilli VIGLIANI.

Vittorio Emanuele II, per grazia di Dio e per volontà della nazione Re d'Italia, a tutti coloro che le presenti vedranno, salute.

Una convenzione addizionale essendo stata conchiusa fra l'Italia, il Belgio, la Francia e la Svizzera, all'effetto di completare nell'interesse della circolazione monetaria dei rispettivi paesi i patti della convenzione stipulata fra i quattro stati suddetti il 23 dicembre 1865, e dai rispettivi plenipotenziari sottoscritta a Parigi il 34 gennaio 1874.

Convenzione addizionale del tenore seguente:

Sa Majesté le Roi d'Italie, Sa Majesté le Roi des Belges, le Président de la République Française et le Conseil Fédéral de la Confédération Suisse, ayant jugé utile, dans l'intérêt de la circulation monétaire de leurs pays respectifs, de réviser par une convention additionnelle la convention qui a été signée entre les quatre états le 23 décembre 1865, ont nommé pour leurs commissaires plénipotentiaires, savoir:

Sa Majesté le Roi d'Italie:

M. Augustin Magliani, sénateur du Royaume d'Italie et conseiller à la cour des comptes, grand officer des ordres des Saints Maurice et Lazare et de la couronne d'Italie, etc., et

M. Constantin Ressman, premier secrétaire de sa légation à Paris, officier de l'ordre de la couronne d'Italie, chevalier de l'ordre des Saints Maurice et Lazare, officier de l'ordre national de la Légion d'honneur, etc.

Sa Majesté le Roi des Belges:

M. Victor Jacobs, membre de la Chambre des Représentants, etc., et

M. Théodore de Bounder de Melsbroeck, conseiller de sa légation à Paris, officier de l'ordre de Léopold, commandeur de l'ordre des Saints Maurice et Lazare d'Italie, officier de l'ordre national de la Légion d'honneur, etc.

Le Président de la République Française:

M. Dumas, secrétaire perpétuel de l'Académie des sciences de l'Institut de France, grand'croix de l'ordre national de la Légion d'honneur, commandeur de l'ordre de Léopold de Belgique, grand'croix de l'ordre de la couronne d'Italie, etc., et

M. Marie-Louise-Pierre-Félix Esquirou de Parieu, membre de l'Institut, grand'croix de l'ordre national de la Légion d'honneur, grand'croix de l'ordre de Léopold de Belgique, grand'croix de l'ordre des Saints Maurice et Lazare, etc.

Le Conseil Fédéral de la Confédération Suisse:

M. Charles Feer-Herzog, vice-président du Conseil National Suisse, et

M. Charles-Edouard Lardy, chargé d'affaires de la Confédération Suisse à Paris.

Lesquels, après s'être communiqué leurs pleins pouvoirs, trouvés en bonne et due forme, sont convenus des articles suivants:

ART. 1.

Les hautes parties contractantes s'engagent pour l'année 1874 à ne fabriquer ou à ne laisser fabriquer des pièces d'argent de 5 francs, frappées dans les conditions déterminées par l'art. 3 de la convention du 23 décembre 1865, que pour une valeur n'excédant pas les limites suivantes, savoir:

Pour l'Italie	40,000,000 francs.
Pour la Belgique	12,000,000 francs.
Pour la France	60,000,000 francs.
Pour la Suisse	8,000,000 francs.

Sont imputés sur les sommes ci-dessus fixées les bons de monnaie délivrés au 31 décembre 1873, savoir:

Par l'Italie, pour une valeur de 9,000,000 francs.

Par la Belgique, pour une valeur de 5,900,000 francs.

Par la France, pour une valeur de 34,968,000 francs.

ART. 2.

En dehors du contingent fixé par l'article précédent, le gouvernement de Sa Majesté le Roi d'Italie est autorisé à laisser fabriquer, pendant l'année 1874 pour le fonds de réserve de la Banque nationale d'Italie, une somme de 20,000,000 francs en pièces d'argent de 5 francs.

Ces pièces devront rester déposées, sous la garantie du gouvernement italien, dans les caisses de la Banque nationale d'Italie, jusqu'après la réunion de la conférence monétaire stipulée par l'article suivant.

ART. 3.

Dans le courant du mois de janvier 1875, il sera tenu à Paris une conférence monétaire entre les délégués des hautes parties contractantes.

ART. 4.

La clause insérée dans l'art. 12 de la convention du 23 décembre 1865, relativement au droit d'accession, est complétée par la disposition suivante:

"L'accord des hautes parties contractantes est nécessaire pour que les demandes d'accession soient admises ou rejetées."

ART. 5.

La stipulation conteune dans l'art. 4 aura la même durée que la convention du 23 décembre 1865.

ART. 6.

La présente convention additionnelle sera ratifiée et l'échange des ratifications aura lieu à Paris aussitôt que faire se pourra.

Elle sera mise en viguer dès que la promulgation en aura été faite d'après les lois particulières à chacun des quatre états.

En foi de quoi, les plénipotentiaires respectifs ont signé le présent acte et y ont apposé le cachet de leurs armes.

Fait, en quatre expéditions, à Paris, le trente et un janvier mil huit cent soixante-quatorze.

[L. S.]	A. MAGLIANI.
[L. S.]	V. JACOBS.
[L. S.]	DUMAS.
[L. S.]	FEER-HERZOG.
[L. S.]	RESSMAN.
[L. S.]	T. DE BOUNDER DE MELSBROECK.
[L. S.]	ESQUIROU DE PARIEU.
[L. S.]	LARDY.

Noi, avendo veduta ed esaminata la qui sovrascritta convenzione addizionale, ed approvondola in ogni e singola sua parte, l'abbiamo accettata, ratificata e confermata, come per le presenti l'accettiamo, ratifichiamo e confermiamo, promettendo di osservarla e di farla inviolabilmente ossevare.

In fede di che noi abbiamo firmato di nostra mano le presenti lettere di ratificazione, e vi abbiamo fatto apporre il nostro reale sigillo.

Dato a Roma addi primo del mese di marzo, l'anno del Signore mille ottocento settantaquattro, vigesimosesto del nostro regno.

VITTORIO EMANUELE.

Per parte de Sua Maestà il Re.

Il Ministro Segretario di Stato per gli Affari Esteri,

VISCONTI-VENOSTA.

H 7.

Legge che autorizza il governo a dare esecuzione alla convenzione monetaria fra l'Italia, il Belgio, la Francia e la Svizzera, 17 *luglio* 1875.

Vittorio Emanuele II, per grazia di Dio e per volontà della nazione Re d'Italia.

Il Senato e la Camera dei Deputati hanno approvato, noi abbiamo sanzionato e promulghiamo quanto segue:

ART. 1.

Il governo del Re è autorizzato a dare piena ed intiera esecuzione alla qui annessa dichiarazione, stipulata fra l'Italia, il Belgio, la Francia e la Svizzera, e sottoscritta a Parigi il 5 febbraio 1875, in ordine all'articolo 3 della convenzione monetaria addizionale del 31 gennaio 1874.

ART. 2.

È data facoltà al governo del Re di sospendere temporaneamente l'applicazione dell'articolo 6 della legge 24 agosto 1862, n. 788, nella parte in cui dispone che i pezzi da lire cinque d'argento al titolo di 900 millesimi non si conieranno se non per conto e sopra dimanda dei privati.

Ordiniamo che la presente, munita del sigillo dello stato, sia inserta nella raccolta ufficiale delle leggi e dei decreti del Regno d'Italia, mandando a chiunque spetti di osservarla e di farla osservare come legge dello stato.

Dato a Torino addi 17 luglio 1875.

(LUOGO DEL SIGILLO) VITTORIO EMANUELE.
VISCONTI-VENOSTA.

V. Il Guardasigilli VIGLIANI.

Déclaration.

Les soussignés, délégués des gouvernements d'Italie, de Belgique, de France et de Suisse, s'étant réunis en conférence en exécution de l'article 3 de la convention monétaire additionnelle du 31 janvier 1874, et dûment autorisés à cet effet, ont, sous réserve de l'approbation de leurs gouvernements respectifs, arrêté les dispositions suivantes:

ART. 1.

Sont prorogées, pour l'année 1875, les dispositions de l'article 1er de la convention additionnelle du 31 janvier 1874, relatives aux limites assignées à la fabrication des pièces d'argent de cinq francs pour la Belgique, la France, l'Italie et la Suisse.

ART. 2.

Le gouvernement italien ayant exposé la nécessité, où il se trouve, de refondre, en 1875, pour la convertir en pièces de cinq francs, une somme de dix millions d'anciennes monnaies d'argent non décimales, chacun des gouvernements contractants est autorisé à faire fabriquer, en sus du contingent fixé par l'article précédent, une quantité de pièces d'argent de cinq francs qui ne pourra excéder le quart du dit contingent.

ART. 3.

Sont imputés sur les contingents fixés par l'article 1er les bons de monnaie délivrés jusqu'à la date de ce jour.

ART. 4.

En dehors du contingent fixé par l'article 1er ci-dessus, le gouvernement italien est autorisé à laisser mettre en circulation la somme de vingt millions de francs en pièces d'argent de cinq francs, fabriquées dans les conditions de l'article 2 de la convention additionnelle du 31 janvier 1874, et immobilisées jusqu'à ce jour dans les caisses de la Banque nationale d'Italie.

ART. 5.

Une nouvelle conférence monétaire sera tenue à Paris, dans le courant du mois de janvier 1876, entre le délégués des gouvernements contractants.

ART. 6.

Il est entendu que jusqu'après la réunion de la conférence prévue par l'article précédent, il ne sera délivré de bons de monnaie, pour l'année 1876, que pour une somme n'excédant pas la moitié du contingent fixé par l'article 1er de la présente déclaration.

ART. 7.

La présente déclaration sera mise en vigueur dès que la promulgation en aura été faite d'après les lois particulières de chacun des quatre états.

En foi de quoi, les délégués respectifs ont signé la présente déclaration, et y ont apposé le cachet de leurs armes.

Fait en quatre expéditions à Paris le 5 janvier 1875.

[L. S.] A. MAGLIANI.
[L. S.] V. JACOBS.
[L. S.] G. DUMAS.
[L. S.] KERN.
[L. S.] RESSMAN.
[L. S.] TH. DE BOUNDER DE MELSBROECK.
[L. S.] G. DE SOUBEYRAN.
[L. S.] E. DE PARIEU.
[L. S.] FEER-HERZOG.

H 8.

Regio decreto col quale è data esecuzione alla dichiarazione monetaria del 3 *febbraio* 1876, 26 *aprile* 1876.

Vittorio Emanuele II, per grazia di Dio e per volontà della nazione Re d'Italia.

Visto l'articolo 5 dello statuto fondamentale del regno;

Sentito il consiglio dei ministri;

Sulla proposta del nostro ministro segretario di stato per gli affari esteri, abbiamo decretato e decretiamo quanto segue:

ARTICOLO UNICO.

Piena ed intiera esecuzione sarà data alla dichiarazione monetaria firmata a Parigi il 3 febbraio 1876 fra i delegati d'Italia, Belgio, Francia, Grecia e Svizzera, in conformità dell'articolo 5 della dichiarazione monetaria del 5 febbraio 1875.

Ordiniamo che il presente decreto, munito del sigillo dello stato, sia inserto nella raccolta ufficiale delle leggi e dei decreti del Regno d'Italia, mandando a chiunque spetti di osservarlo e di farlo osservare.

Dato a Roma addì 26 aprile 1876.

VITTORIO EMANUELE.

Registrato alla corte dei conti addì 8 maggio 1876. Vol. 86, atti del governo a c. 103.

AYRES.

(LUOGO DEL SIGILLO.) MELEGARI.

V. Il Guardasigilli MANCINI.

Déclaration.

Les soussignés, délégués des gouvernements d'Italie, de Belgique, de France, de Grèce et de Suisse, s'étant réunis en conférence en exécution de l'article 5 de la déclaration monétaire du 5 février 1875, et dûment autorisés à cet effet, ont, sous réserve de l'approbation de leurs gouvernements respectifs, arrêté les dispositions suivantes:

ART. 1.

Les gouvernements contractants s'engagent, pour l'année 1876, à ne fabriquer ou à ne laisser fabriquer de pièces d'argent de 5 francs, frappées dans les conditions déterminées par l'article 3 de la convention du 23 décembre 1865, que pour une valeur n'excédant pas la somme de 120 millions de francs, fixée par l'article 1 de la convention additionnelle du 31 janvier 1874.

La dite somme de 120 million de francs est répartie ainsi qu'il suit:

1° Pour la Belgique ..... 10,800,000 francs
Pour la France ..... 54,000,000 "
Pour l'Italie ..... 36,000,000 "
Pour la Suisse ..... 7,200,000 "

2° En ce qui concerne la Grèce, qui a accédé à la convention du 23 décembre 1865 par une déclaration du 26 septembre 1868, le contingent fixé pour cet état, proportionnellement à ceux des autres gouvernements contractants, est arrêté à la somme de 3,600,000 francs.

3° En dehors du contingent fixé au paragraphe précédent, le gouvernement hellénique est exceptionnellement autorisé à faire fabriquer et à mettre en circulation, sur son territoire, pendant l'année 1876, une somme de 8,400,000 francs en pièces d'argent de 5 francs, cette somme étant destinée à faciliter le remplacement des diverses monnaies actuellement en circulation, par des pièces de 5 francs frappées dans les conditions déterminées par la convention de 1865.

ART. 3.

Sont imputés sur les contingents fixés au paragraphe 1 de l'article précédent, les bons de monnaie délivrés jusqu'à la date de ce jour, dans les conditions déterminées par l'article 6 de la déclaration du 5 février 1875.

Est également imputée sur la somme totale de 12 millions de francs, attribuée à la Grèce par les paragraphes 2 et 3 de l'article précédent, celle de 2½ millions, que le gouvernement hellénique avait été autorisé à faire fabriquer en 1876, comme équivalent des bons de monnaie que les autres gouvernements contractants ont eu la faculté de délivrer.

ART. 4.

Une nouvelle conférence monétaire sera tenue à Paris, dans le courant du mois de janvier 1877, entre les délégués des gouvernements contractants.

ART. 5.

Jusqu'après la réunion de la conférence prévue à l'article précédent, il ne sera délivré de bons de monnaie pour l'année 1877 que pour une somme n'excédant pas la moitié des contingents fixés par les paragraphes 1 et 2 de l'article 2 de la présente déclaration.

ART. 6.

L'article II de la convention du 23 décembre 1865, concernant l'échange des communications relatives aux faits et documents monétaires, est complété par la disposition suivante:

"Les gouvernements contractants se donneront réciproquement avis des faits qui parviendraient à leur connaissance au sujet de l'altération et de la contrefaçon de leurs monnaies d'or et d'argent dans les pays faisant ou non partie de l'union monétaire, notamment en ce qui touche aux procédés employés, aux poursuites exercées et aux répressions obtenues. Ils se concerteront sur les mesures à prendre en commun pour prévenir les altérations et contrefaçons, les faire réprimer par tout où elles se seraient produites et en empêcher le renouvellement."

ART. 7.

La présente déclaration sera mise en vigueur dès que la promulgation en aura été faite d'après les lois particulières de chacun des cinq états.

En foi de quoi, les délégués respectifs on signé la présente déclaration et y ont apposé le cachet de leurs armes.

Fait en cinq expéditions, à Paris, le 3 février 1876.

Pour l'Italie,

[L. S.] C. BARALIS.
[L. S.] RESSMAN.

Pour la Belgique,

[L. S.] SAINCTELETTE.
[L. S.] Baron de LITTEURS STUGAERTS.

Pour la France,

[L. S.] DUMAS.
[L. S.] G. de SOUBEYRAN.
[L. S.] JAGERSCHMIDT.

Pour la Grèce,

[L. S.] DELYANNI.

Pour la Suisse,

[L. S.] KERN.
[L. S.] FERR-HERZOG.

H 9.

Legge sulla circolazione cartacea durante il corso forzoso, 30 aprile 1874.

Vittorio Emanuelle II, per grazia di Dio e per volantà della nazione Re d'Italia.

Il Senato e la Camera dei Deputati hanno approvato; noi abbiamo sanzionato e promulghiamo quanto segue:

Istituti che possono emettere biglietti.

ART. 1.

Durante il corso forzoso è victato a qualsiasi privato, società od ente giuridico di emettere biglietti di banco od altri titoli equivalenti, paga-

bili al portatore ed a vista, ad eccezione dei seguenti istituti: Banca Nazionale nel Regno d'Italia, Banco di Napoli, Banca Nazionale Toscana, Banca Romana, Banco di Sicilia, Banca Toscana di credito per le industrie ed il commercio d'Italia, salvo le disposizioni dell'art. 27 della presente legge.

Biglietti consorziali a corso forzoso.

ART. 2.

I sei istituti di credito sovranominati, riuniti in consorzio a questo scopo, somministreranno al tesoro dello stato mille milioni di lire in biglietti fabbricati e rinnovati a loro spese.

La somministrazione e la emissione dei mille milioni di lire saranno fatte per 890 milioni entro un anno dalla pubblicazione di questa legge, e pel resto successivamente, secondo che sarà determinato dalla legge del bilancio o da legge speciale.

Sulla quantità dei biglietti somministratigli, lo stato pagherà al consorzio un'annualità di lire 0.50 per cento nei primi quattro anni, e di lire 0.40 per gli anni successivi, salvo la ritenuta per la tassa di ricchezza mobile, categoria *A*.

ART. 3.

I biglietti consorziali somministrati al tesoro dello stato, giusta l'articolo precedente, avranno corso forzoso, a norma dell'articolo 3 del regio decreto 1° maggio 1866, n. 2873, salvo il disposto con l'articolo 18 di questa legge.

Dei biglietti medesimi risponderanno solidalmente gli istituti di emissione di cui all'articolo 1, mentre nei loro scambievoli rapporti tale responsabilità s'intenderà per ciascheduno proporzionata al proprio patrimonio o capitale di che agli articoli 9 e 10, e nella proporzione stessa saranno ripartite le spese relative ai biglietti somministrati dal consorzio per mille milioni.

La rendita pubblica nominativa, data e da darsi in guarentigia dal governo a norma della legge 19 aprile 1872, n. 759, (serie 2ª,) sarà custodita dalla cassa dei depositi e prestiti senza pagamento di tassa.

ART. 4.

I biglietti consorziali porteranno l'indicazione di essere a corso forzoso ed inconvertibile, e le firme di un apposito delegato del consorzio delle banche e di un delegato del governo.

Essi saranno in carta bianca, e di tagli da lire 0.50, da lire 1, lire 2, lire 5, lire 10, lire 20, lire 100, lire 250 e lire 1,000.

Con regolamento da approvarsi per decreto reale saranno determinati i modi della emissione dei nuovi biglietti, e del retiro e dell'annullamento di quelli ora in corso, le forme proprie dei biglietti consorziali e la proporzione fra i diversi tagli.

ART. 5.

Coi biglietti consorziali il governo provvederà alla estinzione del debito che ha verso la Banca Nazionale nel Regno d'Italia per mutui attinenti al corso forzoso, compresa la somma dei 50 milioni mutuata dalla banca in oro, per effeto della convenzione approvata con regio decreto dell'11 agosto 1870.

Però i detti 50 milioni saranno ripartiti fra i sei istituti in proporzione dei rispettivi patrimoni o capitali di che agli articoli 9 e 10, e ciascun istituto darà alla Banca Nazionale nel Regno d'Italia la sua quota in oro, contro corrispondente ammontare di biglietti consorziali.

Per questa somma di 50 milioni rimane salvo il diritto degli istituti medesimi al cambio in oro di altrettanti biglietti consorziali, tre mesi innanzi alla cessazione del corso forzoso.

ART. 6.

La Banca Nazionale nel Regno d'Italia pagata del suo credito, e tolti dalla circolazione i suoi biglietti emessi per conto del governo, nei modi che serrano prescritti dal regolamento di che all'articolo 4, restituirà la rendita datale in guarentigia dal governo, rientrarà nella condizione generale degli altri istituti a norma della presente legge.

Biglietti propri di ciascun istituto.

ART. 7.

Il debito rappresentato da biglietti o titoli equivalenti emessi per proprio conto da ciascuno dei sei istituti indicati nell'articolo 1, non potrà, sotto qualunque forma e causa, ammontare a somma maggiore del triplo del patrimonio posseduto o capitale versato, escluso il fondo di riserva o massa di rispetto nè del triplo del numerario esistente in cassa in metallo o in biglietti consorziali, salvo il disposto con gli articoli 10 e 13 di questa legge.

ART. 8.

I biglietti che gli istituti surriferiti sono autorizzati ad emettere per proprio conto saranno in carta colorata, esclusa la bianca, ed unicamente dei tagli da lire 50, lire 100, lire 200, lire 500 e lire 1,000, con le modalità e sotto le forme da determinarsi per regolamento.

ART. 9.

Il governo, entro tre mesi dalla pubblicazione della presente legge, accerterà l'ammontare del patrimonio posseduto o capitale versato da ciascun istituto, e ne determinerà la somma utile agli effetti dell'articolo 7.

Dal suddetto accertamento non saranno esclusi i beni immobili posseduti da ciascun istituto.

ART. 10.

L'ammontare totale del patrimonio o capitale utile alla tripla circolazione non potrà essere maggiore, per ciascun istituto, di quello accertato al 31 dicembre 1873, salvo le disposizioni seguenti:

1. La Banca Romana è autorizzata ad emettere, entro sei mesi dalla pubblicazione di questa legge, la seconda serie di 5,000 azioni, e dentro tre mesi successivi la terza serie di altre 5,000 azioni.

Il valore nominale delle 10,000 azioni di nuova emissione sarà computato nell'accertamento del patrimonio o capitale. L'eventuale maggiore prodotto della vendita di dette azioni dovrà andare nel fondo di riserva o massa di rispetto.

2. I Banchi di Napoli e di Sicilia sono autorizzati ad aumentare, nei

modi consentiti dai loro statuti ed indipendentemente dal fondo di riserva o massa di rispetto, il proprio patrimonio o capitale sino al 50 per cento della somma accertata, giusta l'articolo precedente.

Tale aumento sarà considerato come esistente sino da ora per gli effetti dell'articolo 7; ma se nel termine di dieci anni non fosse effettivamente compiuto, la circolazione dei biglietti di detti banchi sarà ridotta in proporzione.

3. Per la Banca Nazionale nel Regno d'Italia la somma di 50 milioni effettivamente versata al 31 dicembre 1873, in aggiunta ai primi 100 milioni, sarà computata come capitale utile agli effetti dell'articolo 7. Però l'emissione di biglietti relativa a due terzi dei detti 50 milioni non potrà farsi dalla banca, se non successivamente in 12 rate uguali, a cominciare dal 1° ottobre 1874, secondo le scadenze del prestito nazionale.

Compiuta la conversione di tale prestito, la circolazione massima della predetta banca non potrà mai eccedere la somma di 450 milioni.

Salvo queste disposizioni, la convenzione relativa al prestito sopradetto, approvata con legge 19 aprile 1872, n. 759, rimane ferma in ogni sua parte.

Ogni altro aumento che in qualunque modo e sotto qualunque titolo fosse portato ai patrimoni o capitali degli istituti suddetti, secondo la facoltà loro attribuita dai rispettivi statuti, varrà di semplice fondo di riserva e non potrà autorizzare alcun aumento alla circolazione di biglietti.

ART. 11.

Il debito degli istituti medesimi rappresentato da biglietti ad ordine, tratte, fedi di credito, polizze, mandati, assegni od altri titoli diversi da quelli indicati all'articolo 7, ma pagabili a vista, ovvero da conti correnti a semplice richiesta, di qualunque specie o denominazione, sarà altresì guarentito da tanto altro numerario in cassa, quanto corrisponda almeno ad un terzo del debito stesso.

ART. 12.

I biglietti somministrati dal consorzio al tesoro dello stato, giusta l'articolo 2, non sono compresi nel limite fissato con l'articolo 7, nè per i medesimi vi ha obbligo a riserva di cassa.

ART. 13.

Il governo per bisogni straordinari ed urgenti del commercio, e dopo essersi esperimentato l'aumento dello sconto, potrà permettere a tutti i sei istituti, che oltrepassino nella loro rispettiva circolazione i limiti prefissi negli articoli precedenti, a condizione che questa maggiore circolazione non ecceda mai il 40 per cento del patrimonio o capitale stabilito con gli articoli 9 e 10.

Siffata permissione dovrà sempre essere accompagnata da un ulteriore aumento dello sconto, e dovrà indicare il termine entro il quale gli istituti sieno obbligati a rientrare nei limiti della loro ordinaria circolazione.

Questo termine non potrà essere maggiore di tre mesi dalla data della autorizzazione medesima.

Tale maggiore circolazione sarà impiegata esclusivamente in isconto di cambiali a scadenza non maggiore di tre mesi.

Gli utili netti di questa maggiore circolazione saranno a totale beneficio dell'erario.

ART. 14.

Gli istituti autorizzati alla emissione di biglietti hanno libera facoltà di aprire sedi o succursali in qualunque provincia del regno. Sono però obbligati ad avere una sede che li rappresenti nella capitale.

Il Banco de Sicilia e la Banca Toscana di credito per le industrie potranno limitarsi ad istituire per ora soltanto una succursale. Il governo, scorsi cinque anni, potrà per decreto reale, udito il parere dei loro consigli di amministrazione, prescriverne il mutamento in sede.

ART. 15.

I biglietti che gl'istituti di credito sono autorizzati ad emettere e tenere in circolazione per conto proprio continueranno temporaneamente ad avere il corso legale nelle provincie del regno nelle quali era ad essi accordato, a norma delli leggi vigenti, salvo le disposicioni dell'articolo 18 di questa legge.

Il corso legale per i biglietti proprii di ciascum istituto sarà esteso anche alle provincie in cui vi sia una sede o succursale od una rappresentanza dell'istituto, la quale assuma l'impegno del cambio per tutta la durata del corso legale.

I biglietti della Banca Nazionale nel Regno d'Italia, dopochè essa sarà stata rimborsata del suo credito a tenore dell'articolo 6, avranno corso legale in tutte le provincie in cui tenga una sede, una succursale od una rappresentanza che assuma l'impegno del cambio per tutta la durata del corso legale.

I sei istituti saranno ad ogni richiesta obbligati al rimborso dei loro biglietti in biglietti consorziali od in moneta metallica.

Durante il corso forzoso tale rimborso ed anche lo scambio dei rispettivi biglietti avranno luogo fra i sei istituti scambievolmente, nei modi che saranno stabiliti con aposite loro convenzioni da approvarsi dal governo.

Laddove fra tre mesi dalla pubblicazione della presente legge le suddette convenzioni non vengano presentate al governo, questo con regolamento da approvarsi mediante decreto reale determinerà le norme della riscontrata.

Trascorsi due anni dalla pubblicazione di questa legge il corso dei nominati biglietti cesserà di essere legale e diverrà interamente fiduciario.

Riserve metalliche e cambiali in moneta metallica.

ART. 16.

Le riserve metalliche possedute dagli istituti di credito autorizzati all'emissione di biglietti saranno progressivamente liberate da ogni vincolo d'immobilizzazione, con l'obligo per gli altri istituti di rendere, nei termini e nei modi che sarrano determinati dal regolamento di cui all'articolo 28, alla Banca Nazionale nel Regno d'Italia, in biglietti della banca medesima, la somma che essa ha loro somministrata sulle rispettive riserve metalliche immobilizzate in conseguenza del regio decreto 1° maggio 1866, n. 2873.

Questa liberazione avra luogo per un quarto alla pubblicazione della presente legge, per un quarto non prima del termine di un anno e per la restante metá alla cessazione del corso legale.

Della parte che rimarrà vincolata si terrá conto agli effetti dell'articolo 7.

ART 17.

Gli istituti suddetti patranno usufruttuare le riserve metalliche con acquisto di cambiali a scadenza non maggiore di tre mesi e pagabili nello stato in moneta metallica a tenore delle leggi monetarie vigenti, ed anche di titoli garantiti dallo stato, già sorteggiati, e pagabili in moneta metallica entro tre mesi.

Ogni altro impiego delle riserve metalliche è vietato.

Il governo ha facoltà di sospendere in parte od in tutto l'impiego delle riserve metalliche, quando ciò sia riconosciuto necessario nell'interesse del rispettivo istituto o della nazione.

Verificandosi il caso che le banche, per ordine del governo, dovessero ricostituire le loro riserve metalliche, verrà proveduto con legge speciale.

Se il parlamento fosse chiuoso il ministero è autorizzato, mediante decreto reale e sentito il consiglio di stato, a dare alle banche una somma ulteriore di biglietti consorziali per provvedere al cambio dei biglietti bancari, contro pegno di altrettanta somma in metallo.

ART. 18.

La stipulazione dei pagamenti in moneta metallica sarà efficace soltanto per le cambiali, (lettere di cambio,) come pure pei biglietti ad ordine fra commercianti o per cause commerciali, pei conti correnti e pei depositi presso le banche e le dasse di risparmio.

Gli obblighi di pagamento dipendenti da cause anteriori alla presente legge rimangono sotto l'applicazione delle leggi precedenti.

Modificazioni statutarie.

ART. 19.

Finchè dura il corso legale lo statuto della Banca Nazionale Toscana, approvato con decreto del 30 dicembre 1857, è modificato come appresso:

1. Gli articoli 32 e 33 sono abrogati, e lo stato renderà il deposito di guarentigia ricevuto dalla banca in virtù di detto articolo 33;

2. Agli articoli 67 e 68 è surrogato il seguente:

La banca è tenuta ad anticipare al governo, sulla richiesta del medesimo, fino alla metà del capitale effettivo versato dagli azionisti, all'interesse annuo del 3 per cento, contro deposito di titoli di fondi pubblici o di buoni del tesoro.

Il governo è autorizzato ad introdurre nello statuto medesimo, sentito il consiglio di stato, le altre modificazioni che sono necessarie all'applicazione delle disposizioni della presente legge ed a quelle della legge 18 agosto 1870, n. 5801.

ART. 20.

All'articolo 5 (ultimo alinea) dello statuto del Banco di Sicilia, approvato con regio decreto del 10 gennaio 1869, n. 2096, le parole "è facoltato" sono surrogate con le seguenti: "è tenuto," e le parole "e secondo le norme e proporzioni fissate nel regolamento" sono soppresse.

ART. 21.

L'articolo 5 dello statuto della Banca Romana, approvato con regio decreto del 2 dicembre 1870, n. 6064, è modificato come segue:

Alle parole "e della proroga successive è stabilita sino al 34 dicembre 1881" sono surrogate le seguenti: "e delle proroghe successive è stabilita sino al 31 dicembre 1889."

ART. 22.

Gli istituti indicati nell'articolo 1 non potranno d'ora in poi fare impieghi diretti senza formale autorizzazione del governo, tranne che per l'investimento del loro fondo di riserva, ossia massa di rispetto, e per operazioni sui buoni del tesoro; salvo per la Banca Nazionale nel Regno d'Italia il disposto dall' articolo 10 circal'operazione della conversione del prestito nazionale.

ART. 23.

Gli istituti medesimi non potranno anticipare danaro, nè fare operazione di qualsiasi natura sulle proprie azioni.

Disposizioni generali.

ART. 24.

Il tesoro dello stato potrà depositare qualunque somma presso le sedi e le succursali di ciascun istituto di credito autorizzato all'emissione dei biglietti, e richiederne il pagamento in totale, od anche ripartitamente, da qualunque o da più altre sedi e succursali dell'istituto medesimo.

Questo servizio sarà reso allo stato gratuitamente, e ne sarrano determinati dal regolamento i termini e le norme, tenueo conto delle condizioni speciali di ciascun istituto.

ART. 25.

La tassa annuale di cui all'articolo 24 della legge 19 iuglio 1868, n. 4480, è stabilita in lire una per ogni cento lire di biglietti o titoli equivalenti, pagabili al portatore a vista, desratto il terzo per la riserva. Questa tassa sarà applicata dalla publicazione della presente legge in avanti.

I biglietti consorziali a corso forzoso sono esenti da detta tassa.

ART. 26.

È sciolto il vincolo stabilito coll'articolo 9 del regio decreto 1° maggio 1866, n. 2873, al saggio dello sconto delle cambiali, quando esse siano pagabili in moneta metallica.

Rimangono di piena efficacia tutte le disposizioni ora in vigore, in quanto non sieno contrarie al disposto conquesta legge.

ART. 27.

Nulla è innovato riguardo alla legge del 21 giugno 1869, n. 5160, relativa agli istituti di credito agrario, e alla legge 14 giugno 1866, n. 2983, relativa al credito fondiario.

ART. 28.

Un regolamento da approvarsi con decreto reale, sentiti gli istituti di cui all'articolo 1 e previo il voto del consiglio di stato, darà le disposizioni necessarie per assicurare l'esecuzione di questa legge e quelle transitorie che occorressero per agevolarla; come pure stabilirà le

norme e le guarentigie per l'esercizio della più ampia vigilanza e sindacato da parte del governo, anche per quanto si riferisce alla fabbricazione ed emissione dei biglietti consorziali, all'abbruciamento e rinnovazione loro. Lo stesso regolamento determinerà i modi uniformi, con i quali debbano essere tenute in evidenza le operazioni per i detti istituti di credito e debbano in ogni decade pubblicarsi le loro situazioni.

ART. 29.

Entro sei mesi dalla pubblicazione della presente legge il governo del Re dovrà presentare alla camera una relazione sulla circolazione cartacea, coi provvedimenti atti a raggiungere lo scopo della estinzione del corso forzoso.

Penalità.

ART. 30.

Gli istituti di credito menzionati in questa legge, i quali tenessero in circolazione biglietti di banco od altri titoli equivalenti, pagabili al portatore a vista, per somma maggiore di quella fissata con questa legge medesima, ovvero assumessero altri debiti a vista od a semplice richiesta, senza mantenerne il prescritto rapporto con il fondo di cassa, saranno soggetti ad una multa in somma eguale alla esuberanza della circolazione ovvero del debito.

Saranno soggetti ad egual multa:

Gli istituti e le banche di credito agrario costituiti a norma della legge 21 giugno 1869, che dopo il 31 dicembre 1875 tenessero in circolazione biglietti di tagli diversi da quelli autorizzati;

Le banche popolari e gli altri istituti di credito che, dopo il 31 dicembre 1875, tenessero in circolazione biglietti;

Gli enti morali e le associazioni non compresi in questa legge, e gli individui che emettessero biglietti di banco od altri titoli equivalenti, pagabili al portatore a vista, come pure coloro che, avendoli emessi, li tenessero in circolazione dopo il 31 dicembre 1874.

Spirato il termine assegnato a ciascun istituto, ente morale, associazione ed individuo, essi sotto pena di eguale multa dovranno depositare nella cassa dei depositi e prestiti una somma equivalente all'ammontare dei biglietti che non saranno stati presentati al cambio, colla quale diffettuarlo durante il quinquennio nei modi stabiliti dal regolamento.

Decorsi cinque anni dalla pubblicazione della legge, i biglietti non presentati sono prescritti, e gli utili divisi per metà fra l'istituto emittente ed il governo.

Per quei comuni i quali tenessero in circolazione biglietti pagabili al portatore a vista, è dichiarata obbligatoria la spesa occorrente al cambio dei biglietti medesimi pel 30 giugno 1875.

Sono applicabili ai comuni stessi le disposizioni contenute nei precedenti due ultimi alinea.

Sono proibiti i biglietti denominati di giuoco o di complimento, i quali simulano od imitano i biglietti di banca, sotto comminatoria di una multa da lire 50 a lire 500 a carico di coloro che li fabbricassero o li ponessero in vendita.

ART. 31.

Gli istituti di che all'articolo 1, i quali non soddisfacessero a vista ad ogni richiesta di cambio dei propri biglietti in biglietti consorziali od in valuta metallica, saranno privati, per decreto reale, del corso legale dei loro biglietti nelle provincie in cui il cambio fosse mancato. Ciò senza pregiudizio di ogni altra azione cui possano andare soggetti gli istituti medesimi

Disposizioni transitorie.

ART. 32.

Gli istituti formanti parte del consorzio dovranno far rientrare gradatamente la circolazione ed il debito rispettivo nei limiti e nelle forme come sopra stabilite, e costituire la loro riserva di cassa per il cambio entro il termine che a ciascheduno sarà assegnato per regio decreto, con riguardo alle speciali condizioni della sua circolazione presente.

Il detto termine non potrà essere maggiore di un anno dalla pubblicazione di questa legge.

Durante questo periodo la circolazione dei biglietti per conto di ciascun istituto non potrà per qualsivoglia titolo oltrepassare quella che esisteva al 31 dicembre 1873.

ART. 33.

Nel termine di un anno dalla pubblicazione di questa legge la Banca Romana dovrà riprendere il cambio dei suoi biglietti senza limitazione di somma, e cesserà la guarentigia del governo sui biglietti medesimi, rimanendo abrogata la notificazione del governo pontificio del 4 ottobre 1866.

Da questa data non avranno più effetto le disposizioni transitorie degli articoli 133 e 136 degli statuti della banca medesima.

ART. 34.

Le fedi di credito dei Banchi di Napoli e di Sicilia *in nome del cassiere a somme fisse*, ed i *buoni di cassa* che la Banca Toscana di credito per le industrie ed il commercio d'Italia è dai suoi statuti autorizzata ad emettere, sono, per gli effetti di questa legge, equiparati ai biglietti pagabili al portatore a vista.

ART. 35.

Le fedi di credito in nome di terzi e le polizze dei Banchi di Napoli e di Sicilia continueranno a godere del corso legale loro accordato con l'articolo 7 del regio decreto del 1° maggio 1866, n. 2873, per un anno dalla data della pubblicazione di questa legge. Scorso tal termine, i detti titoli rimarranno meramente fiduciari.

Ordiniamo che la presente, munita del sigillo dello stato, sia inserta nella raccolta ufficiale delle leggi e dei decreti del Regno d'Italia, mandando a chiunque spetti di osservarla e di farla osservare come legge dello stato.

Dato a Roma addì 30 aprile 1874.

VITTORIO EMANUELE.
M. MINGHETTI.
G. FINALI.

(LUOGO DEL SIGILLO.)
V. Il Guardasigilli VIGLIANI.

JAPAN.

A.—Mr. Bingham to Mr. Fish.
B.—Same to same.
B 1.—Japanese minister of foreign affairs to Mr. Bingham, with 13 inclosures.
B 2.—Gold and silver imports and exports, calendar years 1872–1874.
B 3.—Same for six months ended June 30, 1875.
B 4.—Same for fiscal year ended June 30, 1876.
B 5.—Table of old and new coins existing in 1855 and struck since, up to 1875.
B 6.—Photographs of Japanese coins of oblong, oval, square, round, and other forms. Omitted.
B 7.—Currency system and mint-regulations.
B 8 to 13.—Reports of Japanese mint, 1872 to 1876, inclusive.

A.

UNITED STATES LEGATION,
Tokei, Japan, November 22, 1876.

SIR: Referring to circular-instruction of date September 18, 1876, in relation to the gold and silver question, I have the honor to report that on the 9th instant I addressed a communication on the subject to Mr. Terashina, inclosing copies of the several inquiries and requesting a reply, if possible, as early as the 22d instant. No reply having been received from the minister of foreign affairs in reply to my communication, I beg leave to inclose herewith duplicate copies of the Second Annual Report of the Commissioner for the Imperial Mint, for the year ending 30th of June last.

You will observe that this report, on page 10, states the total amount of gold, silver, and copper coined at the mint, from its opening to the 30th of June last, to have been of the value of $\$60{,}605{,}383\frac{26}{77}$, and on pages 24 and 25, you will find a statement of the standard weight of Japanese coins.

In response to the inquiry made in the first interrogatory addressed to me, as to the paper circulation in Japan, and the extent to which the same is legal tender, I beg leave to refer to my dispatch No. 453, of date the 14th of October last, and the inclosure therewith.

In reply to interrogatory 7, as to the annual imports and exports of coin and bullion to and from Japan, I have the honor to state that I have at present no other or further information on the subject than was communicated to the Department in my dispatch No. 371, of date the 5th of April last, to which dispatch and its inclosures I beg leave respectfully to refer you.

I have, &c.,

JNO. A. BINGHAM.

Hon. HAMILTON FISH,
Secretary of State.

B.

UNITED STATES LEGATION, JAPAN,
Tokei, December 11, 1876.

SIR: Referring to circular-instruction of date the 18th of September last, in relation to the investigation ordered by Congress upon the gold

and silver question, and in further reply thereto, I have the honor to say that, on the 6th instant, I received from Mr. Terashima the inclosed reply to my communication to him of the 9th of November last, of which I acquainted you in my No. 464, to which I beg leave especially to refer you. The dispatch of Mr. Terashima, a copy of which, with thirteen inclosures, is herewith transmitted, is all the additional information that I have been able to gain on the subject of the several inquiries which I was directed by the circular-instruction to make.

The inclosure marked C 2 shows the gold and silver exports and imports of this empire seven consecutive years, from 1868 to 1874, (see page 10.) The inclosure marked C 3 shows the export and import of gold and silver for the six months ended June 30, 1875, (see page 46,) and inclosure C 4, page 19, shows the gold and silver export for the years 1875–76. Inclosure C 5 is a table of gold and silver coins, their number, &c. You will observe that many of these pieces are of but small value; and it is also to be remarked that the table, as to numbers, is quite unintelligible. This inclosure is an original. Inclosure C 6 is a book of photographs of the gold and silver coins of Japan. I also inclose a printed copy of the currency system and mint regulations, (inclosure C 7,) and reports of the commissioner and director of the imperial mint from 1872 to 1876, inclusive, (inclosures Nos. C 8, 9, 10, 11, 12, and 13.)

The only specific replies to your interrogatories which I am able to give were communicated in my No. 464.

I have the honor to be, sir, your obedient servant,

JNO. A. BINGHAM.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

B 1.

FOREIGN OFFICE TAKIO,
The 5th the 12th month, the 9th year Meiji.

SIR: I have the honor to acknowledge the receipt of your excellency's dispatch dated the 9th November, 1876:

Therein you requested me to have answered several interrogatories addressed to the chief officers of the mint or mints in foreign countries and forwarded to you by the honorable the Secretary of the State Department of the United States, which interrogatories are put by the Committee on Mints, under direction from the United States Congress, in session on the 15th August last, and also to have answered the other inquiries addressed to your excellency.

I beg to inform you, in reply, that I immediately communicated the matter to the department of finance, although the answers to those interrogatories, addressed to the chief officer of the mint, should be made by the commissioner of the mint at Osaka, yet the time for you to forward them to your country is fast approaching and we are not allowed to have direct communication with the mint. The answers I beg leave to herewith forward to you, in two copies, have been compiled by the department of finance, but they are not very exact, owing to the great haste taken in responding to the questions.

As to the information to be gathered in foreign countries in order to arrive at a solution of the four questions ordered by the Congress of the United States on the 15th August last, and also as regards the report

to be made on or before the 15th January next by the said committee upon the bill before Congress bearing upon the same subject, Okuma Shigendre, our minister for finance, asks me to request that, as all this matter is important to and useful for our government also, your excellency would use your good offices to cause him to be made acquainted with the facts reported and to furnish him with an account of the proceedings of the committee to sit next year. I beg to request you to communicate the matter to your excellency's government.

I avail myself of this occasion to renew to your excellency the assurances of my highest consideration.

TERASHIMA MUNENORI,
His Imperial Japanese Majesty's Minister For Foreign Affairs.

His Excellency JOHN A. BINGHAM,
Envoy Extraordinary and Minister Plenipotentiary of the U. S. A.

B 2.

Exports and imports of gold and silver coin and bullion, calendar years 1872 *to* 1874, *inclusive.*

	1872.			1873.			1874.		
		Value.			Value.			Value.	
		Gold yen.	Sen.		Gold yen.	Sen.		Gold yen.	Sen.
EXPORTS.									
Gold coin	.....	142, 646	00. 0	.....	2, 013, 602	00. 0	.....	7, 597, 753	00. 0
Silver coin	.....	.....	.....	.....	19, 430	00. 0	.....	897, 659	62. 0
Gold coin.....nibukin..	4, 673, 320	2, 538, 547	42. 4	1, 105, 400	600, 453	28. 0	970, 000	526, 904	00. 0
Gold coin....nishukin..	26, 400	3, 593	04. 0	.....	.....	.....	12, 000	1, 633	20. 0
Silver coin..ichibugin..	4, 411, 174	1, 374, 962	93. 6	1, 641, 466	511, 644	95. 2	2, 363, 182	736, 603	82. 9
Silver coin ...i'shugin..	5, 184, 800	383, 675	20. 0	7, 504, 560	555, 337	44. 0	11, 057, 738	818, 272	61. 2
Silver coin ....yengin..	21, 500	21, 715	00. 0	.....	.....	.....	32, 613	32, 939	13. 0
Gold bullion	130	.....	.....	.....	.....	.....	.....	.....	.....
Silver coin, Chinese	.....	.....	.....	1, 967	2, 860	82. 5	.....	.....	.....
Silver bullion	1, 615	.....	.....	.....	822, 140	00. 0	.....	600	00. 0
Copper coin	.....	.....	.....	.....	3, 300	00. 0	.....	.....	.....
Specie	412	.....	.....	.....	.....	.....	.....	.....	.....
Paper money	.....	43, 275	00. 0	.....	.....	.....	.....	.....	.....
Mexican dollars	15, 600	15, 756	00. 0	591, 544	597, 459	44. 0	3, 349, 343	3, 382, 836	63. 2
Total	.....	4, 524, 170	60. 0	.....	5, 136, 227	93. 7	.....	13, 995, 202	02. 3
IMPORTS.									
Mexican dollars	3, 654, 960	3, 691, 509	60. 0	1, 051, 444	1, 061, 958	44. 0	1, 021, 826	1, 032, 044	00. 0
Gold bullion	.....	.....	.....	.....	1, 977, 707	14. 1	.....	1, 100	00. 0
Silver bullion	.....	.....	.....	.....	2, 424	00. 0	.....	13, 130	00. 0
Specie	6, 765	.....	.....	.....	.....	.....	.....	.....	.....
Gold coin	.....	.....	.....	.....	36, 200	00. 0	.....	1, 600	00. 0
Silver coin	.....	.....	.....	.....	980	00. 0	.....	.....	.....
Silver coin..ichibugin..	.....	.....	.....	.....	.....	.....	22, 600	7, 044	42. 0
Silver coin ...i'shugin..	.....	.....	.....	17, 200	1, 272	80. 0	22, 720	16, 812	80. 0
Total	.....	3, 691, 509	6. 00	.....	3, 080, 542	38. 1	.....	1, 071, 731	22. 0

B 3.

Gold and silver coin and bullion exported from, and imported at, all of the general ports in Japan, six months ended June 30, 1875.

	Quantity.	Value.	
		Gold yen.	Sen.
EXPORTS.			
Japanese coin.			
Gold coin		6,058,281	00.0
Silver coin		430,993	87.0
Gold coin ..... nibukin..	1,936,338	1,051,818	80.2
Silver coin ..... ichibugin..	298,440	103,558	68.0
Silver coin ..... ichibugin..	1,313,944	409,556	34.5
Silver coin ..... i'shugin..	6,482,034	479,670	51.6
Silver coin ..... yengin..	262,114	264,735	14.0
Gold bullion	530	24,240	00.0
Foreign coin.			
Mexican dollars	611,805	626,593	89.1
English coin	1,124	5,496	91.0
French coin	68	330	54.3
Total		9,455,275	69.7
IMPORTS.			
Foreign coin.			
Mexican dollars	53,792	54,718	00.5
Silver	183	4,429	86.0
Gold bullion	9,857	24,899	32.8
Japanese coin.			
ilver coin ..... ichibugin..	2,139	742	23.3
Silver coin ..... ichibugin..	100	31	17.0
Silver coin ..... i'shugin..	23,308	1,724	79.2
Total		86,545	38.8

B 4.

A statement showing the quantity and value of gold and silver specie and bullion exported from all of the open ports of Japan, year ended June 30, 1876.

	Quantity.	Value.	
		Gold yen.	Sen.
JAPANESE COIN.			
Coin, gold		5,591,343	00.0
Coin, silver		146,099	51.5
Coin, gold ..... nibukin..	2,739,862.00	1,438,293	03.8
Coin, gold ..... Bunsei ichibuban..	16.00	20	11.7
Coin ..... koichibugin..	670,750.00	232,750	25.0
Coin, gold ..... ichibugin..	319,004.00	99,433	54.6
Coin, gold ..... nishukin..	70,160.00	9,548	77.6
Coin, silver ..... Bunsei isshugin..	435,600.00	45,084	60.0
Coin, silver ..... isshugin..	5,401,904.00	399,740	89.6
Coin, gold ..... kiobooban..	1.00	74	71.9
Coin, gold ..... genbreukoban..	3.00	17	27.7
Coin, gold ..... shinkoban..	1.00	1	39.4
Trade dollars	85,370.00	86,013	70.0
Bullion silver	4,611.70	1,843,707	20.0
FOREIGN COIN.			
Mexican dollars	2,501,746.18	2,519,224	78.4
English coin, gold	214.00	1,046	28.2
French coin, gold	296.00	1,131	28.3
Spanish coin, gold	3.00	12	00.0
Russian paper money	82,626.00	60,482	23.2
Total		12,524,024	51.9

B 5.

A statement showing the quantity and value of gold and silver specie and bullion imported at all of the open ports of Japan, year ended June 30, 1876.

	Quantity,	Value.	
		Gold yen.	Sen.
FOREIGN COIN.			
Mexican dollars	1,471,453.76	1,479,128	19.8
Russian paper money	51,900.00	37,990	80.0
Chinese coin, silver	2,500.00	3,358	25.0
Bullion, gold	3.88	1,616	00.0
Bullion, silver	3,851.46	92,355	03.0
JAPANESE COIN.			
Coin, silver		13,000	00.0
Trade dollars	6,841.00	6,841	00.0
Total		1,644,289	27.8

B 6.

TABLE A.—*General table of old and new coins from the ancient times down to the present day.*

	The number of ancient coins existing in the first year of Ansei, (or 1855,) and the subsequent coinages of new currencies.	Melted and recoined into new money.	Exported to foreign countries.	Actual existing number in June, 1875.
Ancient gold coins	81,587,624,651	43,569,744,866	0	38,017,879,785
Ancient silver coins	24,513,498,700	21,784,872,434	0	2,728,626,266
Total	106,101,123,351	65,354,617,300	0	40,746,506,051
Ansei two-boos pieces, gold	6,890,544,398	2,796,632,482	560,865,932	3,533,045,984
Ansei five-rios pieces, gold	1,254,065,085	989,067,020	0	264,998,065
New one-rios pieces and one-boo pieces, gold	831,020,851	0	0	831,020,851
New five-rios pieces, gold	492,904,458	0	0	492,904,458
New two-boos pieces and new two-shus pieces, gold	59,105,531,232	0	4,069,611,960	55,035,919,264
Two-boos pieces of inferior class, gold	674,976,976	0	92,471,846	582,505,130
Sei-mark silver-coins	2,003,946,491	485,420,696	0	1,608,525,795
One-shu pieces, silver	12,034,657,034	0	1,968,147,812	10,066,509,222
Larger Ansei two-shus pieces, silver	335,625,651	310,159,152	0	25,466,499
One boo-pieces, silver	36,275,381,827	129,023,177	3,028,703,391	33,117,655,259
New one-boo pieces, silver	1,358,798,091	0	99,805,528	1,258,992,563
New one-shus pieces, silver	1,491,981,724	0	248,997,564	1,242,984,160
Present gold-coins	50,296,338,000	0	15,774,482,000	34,521,856,000
Present silver-coins, (subsidiary)	10,252,681,300	0	1,347,103,490	8,905,577,810
Trade-yens	4,805,598,000	0	319,389,270	4,486,208,730
Total	188,194,051,118	4,710,302,527	27,509,578,801	155,974,169,790
Grand total	294,295,174,469	70,064,919,827	27,509,578,801	196,720,675,841

B 7.

CURRENCY SYSTEM AND MINT REGULATIONS.

CURRENCY SYSTEM.

I. Each kind of the gold coins, namely, twenty (20) yen, ten (10) yen, five (5) yen, two (2) yen, and one (1) yen, among which the last, namely, the one yen, is unit and shall be the legal tender in all payments to any amount.

II. Each kind of the silver coins, except the silver trade-dollar, will be subsidiary coins, and shall be legal tender for the payment of sums not exceeding ten (10) yen in any one payment, whether the payment is made in one of these coins or several.

III. Each of the subsidiary copper coins, namely, two (2) sen, one (1) sen, one-half ($\frac{1}{2}$) sen, and one-tenth ($\frac{1}{10}$th) of one sen, shall be legal tender in payment of sums not exceeding one (1) yen in any one payment.

IV. For the convenience of commerce at the open ports, the silver trade-dollar will be coined for the present for Japanese or foreigners, on application; this will be the silver coin of commerce, and is intended to facilitate the operations thereof.

This silver trade-dollar is solely to be used in the payment of import and export duties and all other taxes, at the open ports, and in operations between Japanese and foreign merchants; not only will it be unavailable for the public payment of internal taxes of every sort, nor will it be generally current; but it will be optional to any persons to use it in making or receiving payments, by mutual agreement, throughout Japan.

In payment of duties and taxes at the open ports, the relative value of the silver trade-dollar (or yen) and the standard gold coin will be for the present at the rate of one hundred dollars (or yen) for one hundred and one gold yen.

The above rules are hereby established.

Table of the weight of the gold coins.

Standard fineness, 9-10.

	Pure gold.		Standard weight.	
	Weight in grams.	Weight in grains.	Weight in grams.	Weight in grains.
20 yen	30	462.97	33⅓	514.41
10 yen	15	231.48	16⅔	257.20
5 yen	7½	115.74	8⅓	128.60
2 yen	3	46.29	3⅓	51.44
1 yen	1½	23.15	1⅔	25.72

Table of the subsidiary silver coins.

Standard fineness, 8-10.

	Pure gold.		Standard weight.	
	Weight in grams.	Weight in grains.	Weight in grams.	Weight in grains.
50 sen	10.7828	166.4	13.4785	208
20 sen	4.31312	66.56	5.3914	83.2
10 sen	2.15656	33.28	2.6957	41.6
5 sen	1.07828	16.64	1.34785	20.8

Table of the subsidiary copper coins.

	Weight in grams.	Weight in grains.
Two sen	14.26	220
One sen	7.13	110
Half sen	3.56	55
One rin	0.90	14

Table of the silver trade-dollar.

Standard fineness, 9-10.

	Pure silver.		Standard weight.	
	Weight in grams.	Weight in grains.	Weight in grams.	Weight in grains.
Trade-dollar	24.594	378	27.216	420

MINT REGULATIONS.

ARTICE I.

The imperial mint will be open every day, with the exception of the holidays mentioned below, for the reception of bullion from the public applying (Japanese) through the Mitsui Gumi at Osaka or (foreigners) through the Oriental Bank corporation at Kobe, from 10 a. m. until 1 p. m.

HOLIDAYS.

Sundays.
From the 1st to the 3d (both inclusive) of the 1st month.
5th and 30th of the 1st month.
11th of the 2d month.
3d of the 4th month.
17th of the 9th month.
3d and the 23d of the 11th month.
From the 29th to the 31st (both inclusive) of the 12th month.

ARTICLE II.

The mint will be closed for the reception of bullion every year from the 16th of the 6th month until the 15th of the 8th month.

ARTICLE III.

If the mint stops on account of any extraordinary occurrence, the receipt of bullion will of course be declined. On such occasions public notice will be given without delay.

ARTICLE IV.

Gold or silver bullion of known standard, as well as foreign gold or silver coin of known standard, will at once be received by the superintendent of bullion office, and returned in standard gold coins for gold and in silver "trade-dollar" for silver, in accordance with the mint regulations.

Should, however, the mint assayer require to test its fineness by "check assays," such bullion will be deposited provisionally in the bullion office, and be or be not accepted after its fineness has been proved to the importer by the mint assays.

NOTE.—Gold bullion to be in quantities not less than fifty ounces (50 oz.) troy (or about 414 momme,) and silver bullion to be not less than one thousand ounces (1,000 oz.) troy (or about 8,280 momme.)

ARTICLE V.

All gold and silver bullion or gold and silver coin whatever, (excepting silver boos in the possession of foreigners,) the fineness of which is not apparent, will be temporarily received, and after premelting and assaying, its fineness will be determined.

If it proves suitable for the purpose of coinage, it will be accepted. The bullion which has been refined at the refinery of the mint (Art. 7) will not require to be premelted.

NOTE.—The amount to be the same as mentioned in art. 4.

ARTICLE VI.

If either gold or silver bullion or gold and silver coin, after premelting and assaying, be found unfit for the purpose of coining, it will be returned to the owner, who will be charged with the expenses of premelting and assying of such bullion.

NOTE.—The said premelting and assay fees to be charged according to the uniform price specially established by the mint.

ARTICLE VII.

Gold and silver bullion, as well as bullion of gold and silver alloy, not suited for the purpose of coining, will be received and refined by the mint refinery for the owner's convenience.

NOTE.—The cost of refining to be borne by the applicant, according to a uniform scale of prices established for the said refinery.

ARTICLE VIII.

On the receipt of any bullion to the imperial mint, "a provisional receipt" will be given to the importer by the superintendent of bullion office. After the determination of its fineness by the assayer of the mint, an acceptance-letter by the commissioner will be made out and forwarded to the importer, with a copy of assay report inclosed. This document is to be signed by the importer before the bullion is accepted for coinage.

ARTICLE IX.

On the acceptance of gold or silver bullion or coin for coinage by the mint, an order will be issued, payable in twenty days after date, for the value of the out-turn, less the mint charges.

NOTE.—Such order is to be payable within above specified time (Japanese) by the Mitsui Guni or (foreigners) by the Oriental Bank corporation.

ARTICLE X.

The cost of coining the standard gold coins shall be one per cent. for the present.

ARTICLE XI.

The cost of coining the silver "trade-dollar" shall be one and a half per cent. for the present.

ARTICLE XII.

The cost of premelting both gold or silver shall be one per mill for the present.

ARTICLE XIII.

Worn Japanese coins of the new standard will be received for recoinage, at their value by weight, at a charge of one-half of one per cent. for gold coins, and one per cent. for silver "trade-dollar." But no expenses will be charged for recoinage of subsidiary coins.

ARTICLE XIV.

The regulations shall be subject to such additions or modifications as experience shall prove to be necessary.

NOTE.—Such changes shall be made known to the public generally without loss of time.

The above rules are hereby established.

(Signed) BOARD OF FINANCE.

4th month Meiji, 8th year.

ANNUAL ASSAY.

I. In order to see whether all coins delivered from the imperial mint are in all respects conformable to the laws regulating the coinage, there shall be once every year an assembly held at the mint for the trial of the annual assay.

II. Either the minister or the assistant minister of the finance department shall be appointed to preside over that assembly. And any other officer or officers under the Japanese government, and efficient chemists, both foreign and Japanese, shall be appointed to attend the meeting, provided that the Japanese government deemed it expedient or necessary.

III. To provide for this purpose, the superintendent of the bullion office will, at each delivery of coins from the operative department, personally take out a certain number of coins from each denomination in presence of the assayer. And the pieces thus taken shall be packed up and sealed conjointly by the said two officials in presence of the commissioner, and will be signed by and deposited in the hands of the commissioner, and all the details, such as the number and denominations of the said coins, the date of packing thereof, &c., shall be entered into the record especially kept for that purpose.

NOTE.—In thus taking and packing coins for reserve no other person or persons shall be suffered to interfere.

IV. The said package of coins, together with a note stating, both in Japanese and English, the denomination and number of the said coins thereiff, the date of delivery, and any other details necessary, shall be kept by the commissioner under lock in an iron safe.

V. From every one thousand (1,000) of twenty-yen, ten-yen, and five-yen, respectively, the superintendent of bullion office shall take out one piece; from every five thousand (5,000) of the two-yen and one-yen, respectively, he shall take out one piece.

VI. From every five thousand (5,000) of the trade-dollar shall be kept one piece.

VII. One piece shall be kept for every two thousand (2,000) of any subsidiary silver coins, without regard to their denominations.

VIII. In the presence of the officers assembled for the purpose of the annual assay, the assayer of the mint shall go through the necessary processes for that end. On this occasion an assayer or assayers may be appointed, according to the discretion of the government, to co-operate with the assayer of the mint.

The foregoing rules for annual assay of coins are hereby established, with authority of the imperial government, by——

OKUMA SHIGENOBU,
Minister of Finance.

1st month Meji, 8th year.

B 8.

First annual report of the director of the imperial mint, Osaka Japan, for the year ending July 31, 1872.

To his excellency INOYE OKURA, TAYOU,
Minister of Finance:

YOUR EXCELLENCY: I have the honor to submit for the information of His Imperial Majesty's government the following report on the imperial mint:

The mint was opened for the reception of bullion from the public on the 4th August, 1871; consequently this is the first annual report. From the commissioner of the mint, who has the entire control of the bullion and accountant's departments, I have received the following details relative to the receipt of bullion:

Amount of gold imported into the imperial mint during the year.

From whom.	Ounces troy, at .900 standard.	
Japanese	317,720	95
Chinese	4,149	68
Other foreigners	196,528	83
Imperial government	339,826	75
Total	858,226	21

Description of gold bullion imported from the public during the year.

Description.	Ounces troy.	
Gold bars of unknown fineness	391,858	17
Gold bars of known fineness	1,971	50
San Francisco bars	77,728	84
American gold coins	10,479	93
Leaf-gold	1,548	25
Total	483,586	69

Amount of silver imported during the year.

From whom.	Ounces troy, at .900 standard.	
Japanese	1,511,933	80
Chinese	270,297	39
Other foreigners	1,024,067	49
Silver boos from foreigners	359,951	28
Imperial government	1,600,920	83
Total	4,767,175	79

Description of silver bullion imported from the public during the year.

Description.	Ounces troy.	
Bar silver of unknown fineness	339,140	80
Bar silver of known fineness	50,480	15
Sycee	403,797	09
Old boos	256,686	20
Tokugawa boos	365,236	96
Quarter boos	32,283	12
Chopped dollars	339,343	29
Mexican dollars	889,394	15
Crude silver	41,335	60
Total	2,715,797	36

I am requested by my esteemed colleague, Mr. Masuda, the commissioner of the mint, to express, on his behalf, the satisfaction of His Majesty's government with the manner in which the relations of the Oriental Bank Corporation toward this establishment have been conducted. To this important corporation, as agents of the imperial government, was intrusted the selection of the foreign staff, and although the personal intercourse of the commissioner has been comparatively short, it affords him great pleasure to state that, in their capacity of foreign bankers of the government, the business has been carried on in a manner most creditable to all concerned.

It may also be recorded that the same satisfaction has been verbally expressed in November last by His Imperial Majesty to Mr. Cargill, who then represented the corporation in Japan.

Previously to the 31st July, 1871, the following coins had been struck:

Denominations.	Number.	Value.
Silver yen	378,244	378,244
Silver 50 sen	330	165
Silver 20 sen	424,115	84,823
Silver 10 sen	553,270	55,327
Silver 5 sen	265,600	13,280
Total	1,621,559	531,839

During the year ending 31st July, 1872, the following coins have been struck, as shown by the bullion-office returns:

Denominations.	Number.	Value.
Gold 20 yen	42,845	856,944
Gold 10 yen	863,616	8,630,176
Gold 5 yen	873,949	4,369,756
Gold 2 yen	221,653	443,312
Gold 1 yen	188,793	188,793
Total	2,190,256	14,488,981
Silver 1 yen	3,306,730	3,306,730
Silver 50 sen	3,190,221	1,595,110
Silver 20 sen	1,789,101	357,820
Silver 10 sen	3,572,860	357,285
Silver 5 sen	1,454,810	72,740
Total	13,313,722	5,689,685
Grand total	15,503,978	20,178,666

The total number of pieces struck was 15,503,978, and their real or nominal value $20,178,666.

The coinage of gold has far exceeded the anticipated demand, and our appliances have proved too limited; the small number of furnaces necessitated the use of the silver-melting furnaces, which entailed the consumption of larger quantities of coke. The supply of gold for coinage being on the increase, it will be necessary to enlarge the gold-melting room, and in the contemplated change to introduce gas furnaces.

The coinage of gold, in consequence of alterations to the dies, did not commence until October, and then only on a very limited scale.

The original diameter of the coins was out of proportion to the thickness, and as we can perfect new matrices and punches this defect will be remedied. The five-yen gold piece will probably be the same diameter as the English sovereign.

The gold work of the mint has been perfect in standard, and the aggregate weight of the pieces corresponds very closely with the prescribed standard weight, but some trifling difference between weight as issued by the mint and the out-turn by counting in the finance department has shown itself.

The demand on the mint was so great during the months of October, November, and December, while our appliances were so inadequate, that the work was continuous from sunrise to sunset daily. Subsequently the addition to our machinery, the discontinuance of receipt of silver from the public, coupled with other causes, having removed some of the obstacles, the regular hours were resumed in January.

The standard one-yen coins were struck until the month of April, when instructions were received at the mint to limit the coinage of silver entirely to subsidiary coins until further orders.

The diameter of the fifty-sen or half-yen is now being changed, and I have recommended that the ten-sen piece should have the value impressed in large characters in the center, instead of the "dragon," which becomes very confused a short time after the dies have been in use, when striking coins produced from the Tokugawa boos, which consist of an alloy of peculiar hardness. I recommend that the Tokugawa boos should be refined and purified before any more of this metal is sent in for coinage.

The relative values of gold and silver being in a state of transition in consequence of the recent adoption of gold as the sole standard, it may be found necessary to adjust the weight of the subsidiary silver coins in favor of the public.

I have been favored by the commissioner with a translation of a report relative to some of the earlier productions of the mint, from Mr. G. Fukuchi, of the Japanese legation at Washington, covering an assay report from James Porlock, esq., the commissioner, and recommendations for the improvement of the coinage from Mr. A. Rodenstolen, a superintendent in the United States Mint.

As these latter documents have been translated from English into Japanese, and then back again into English, it is unnecessary to give them *in extenso*, but I will endeavor as briefly as possible to convey the views of the writers. Mr. Fukuchi says he is sure "that the information will be very interesting for the imperial mint to provoke a more accurate process of coining the money, while it will be less interesting for displaying the honor of the country;" and further recommends that the coins be made somewhat thicker, and "the statue of a certain being will be preferable on its face." Advice is offered that the silver yen should not be of higher standard than the Mexican, and that the subsidiary silver coins should be of .900 instead of .800 fineness.

The Assay Report of Mr. Porlock is as follows:

Denominations.	Standard weight.	Weight.	Standard fineness.	Fineness.
Gold 20-yen	514.41	514.20	$\frac{900}{1000}$	$\frac{900}{1000}$
Gold 10-yen, (none)				
Gold 5-yen	128.60	128.59	$\frac{900}{1000}$	$\frac{900}{1000}$
Gold 2-yen	51.44	51.81	$\frac{900}{1000}$	$\frac{899.6}{1000}$
Gold 1-yen	25.72	26.60	$\frac{900}{1000}$	$\frac{900}{1000}$
Silver 1-yen	416.00	415.17	$\frac{800}{1000}$	$\frac{799.7}{1000}$
Silver 50-sen*	193.40	192.44	$\frac{800}{1000}$	$\frac{799.7}{1000}$
Silver 20-sen*	77.20	81.44	$\frac{800}{1000}$	$\frac{798.6}{1000}$
Silver 10-sen*	38.60	37.61	$\frac{800}{1000}$	$\frac{798.7}{1000}$
Silver 5-sen*	19.30	20.02	$\frac{800}{1000}$	$\frac{798.7}{1000}$

* There are two classes of these coins, varying in weight, the one the decimals of the silver yen and the other of the gold yen, as now adopted.

Mr. Porlock remarks on the accuracy of the gold coins, and considers they may fairly be compared with the coinage of any country.

The composition of the gold coins is as follows:

Pure gold	900 parts.
Copper	90 "
Silver	10 "
	1,000 parts.

I may remark here that no allusion is made to the "remedy" or permitted deviation in any case. In the assay of a coin nominally of $\frac{900}{1000}$ it would be considered standard should it prove to be $\frac{898}{1000}$ or $\frac{902}{1000}$, being an allowance of 2 parts per thousand higher or lower.

As to the weight:

Denomination.	Remedy.	Permitted divergence.
Gold 20-yen	½ grain..	513.91 to 514.91
Gold 10-yen	¼ grain..	256.70 to 257.70
Gold 5-yen	¼ grain..	128.10 to 129.10
Gold 2-yen	¼ grain..	51.19 to 51.69
Gold 1-yen	¼ grain..	25.47 to 25.97
Silver 1-yen	1½ grains	414.50 to 417.50

The subsidiary coins are weighed by the pound avoirdupois, and accuracy of individual pieces cannot under these circumstances be looked for. The one-yen gold pieces were at first "pounded" also, as we had no other means of meeting the pressure on our weighing-room. A comparison follows as to the 50-sen piece of Japan being equivalent to $44\frac{67}{100}$ cents of the American coinage, the weight and standard being altogether different.

The remarks of Mr. A. Rodenstolen refer to the divergence in weight of the various pieces. He also ignores the "remedy," and treats "pounded" coins in the same manner as those weighed singly.

With all due deference to the opinion of Mr. Fukuchi, I cannot agree with him that "the honor of the country" is in any way injuriously affected by the result, but I may fairly ask from you that when opinions as to the coinage are required from foreign countries specimens from the more recent coinage should be sent simultaneously and officially to the British, French, German, and other governments, if you please, and these *ex parte* reports avoided. In the appendix will be found my reply to the documents just referred to.

The following remarks on the various departments of the mint show how difficult it is to produce good results with untrained labor. This evil will gradually disappear, and a number of cadets are being introduced into the mint, who it is hoped, from the care bestowed on their selection, will eventually prove of great use in the service.

The following is the list of the European officers belonging to the director's department:

Mr. C. TOOKEY, F. C. S., Assayer.
Mr. G. W. HUNTER, Second Assayer.
Mr. E. ATKIN, Superintendent of Melting Department.
Mr. HERBERT WHEELER, Director's Secretary.
Mr. HENRY SHEARD, Die Engraver.
Mr. JOHN PRITCHETT, Foreman Coining Department.
Mr. E. WYON, Assistant Foreman Coining Department.
Mr. J. RESIDE, Foreman of Artificers' Department.
Mr. T. HACKETT, Assistant Foreman of Artificers' Department.
Mr. W. SMITH, C. E., Superintendent Weighing-Room.
Mr. MANCINI, Foreman Rolling-Room.
Mr. ROLAND FINCH, F. C. S., Foreman Sulphuric Acid Works.

With reference to this department, an extract from the valuable report for 1871 of Mr. Fremantle, the Deputy Master of the Royal Mint, London, may not be out of place, as it expresses so thoroughly the importance of the duties. He says: "In considering such questions it must always be borne in mind that the operations of minting consist not simply in the mechanical production of accurately adjusted disks of metal, the purity of which has alone to be guaranteed; but in the formation of an alloy composed of precious and base metals in definite proportions, and that not only does the preparation of such an alloy present many difficulties, but that the accuracy of its composition after melting must be absolutely ascertained; that it must be protected during certain processes incidental to coining against a change of standard, and that finally its correctness must again be verified when it has been converted into coin. It is evident, therefore, that it must always be an object of the first importance to a mint-master to attain the highest possible degree of accuracy in the chemical operations connected with coinage, and more especially in assaying, and no opportunity has been neglected during the past year of applying to the practice of the mint the experience of the past and the exactness which is the main characteristic of this branch of science at the present day."

To Mr. Tookey the greatest credit is due for the accuracy and skill exhibited in his department, and I am enabled to refer to a valuable memorandum from him, attached to this report, for most interesting details. His recommendation that the remedy on subsidiary coins should be increased to 3 per mil. should certainly receive attention from the Government.

It is highly satisfactory to be able to report the result of the coinage thus far.

In June last, by order of your excellency and in the presence of yourself, Mr. Mawatori, the chief officer of the imperial treasury, and others, the examination was commenced of the test pieces taken daily from the coins struck, in accordance with the regulations for the annual assay, which provides that from every one thousand of twenty yen, ten yen, and five yen, respectively, the commissioner shall take one piece when the director passes the coins for circulation, and from every five thousand of two and one yen, respectively, he shall in like manner take out

one piece, also one piece for every two thousands of any denomination of subsidiary coins.

The following is the report of Mr. Tookey, the assayer to the mint:

JUNE 18, 1872.

To the Director:

I hereby certify that I have assayed the ingots of melted pyx pieces which have been accumulated since the opening of the mint, and have found the proportions of fine metal and alloy to be within the prescribed limits, the metal from the five denominations of gold coins being as nearly as possible standard. Particulars:

Two assays of each gold ingot and four of each silver ingot.

20 yens, gold in 1,000 parts	899.85
10 yens, gold in 1,000 parts	899.86
5 yens, gold in 1,000 parts	900.00
2 yens, gold in 1,000 parts	899.43
1 yen, gold in 1,000 parts	899.71
1 yen, silver in 1,000 parts	898.66
50 sen, silver in 1,000 parts	798.00
20 sen, silver in 1,000 parts	799.12
10 sen, silver in 1,000 parts	798.50
5 sen, silver in 1,000 parts	798.16

CHARLES TOOKEY, *F. C. S.*,
Assayer Imperial Mint.

The standard of the gold coinage and one-yen silver pieces is $\frac{900}{1000}$, with a remedy in either direction of 2 per thousand.

The fineness of the subsidiary silver coins, viz, 5, 10, 20, and 50 sen, is $\frac{800}{1000}$, with a similar remedy or permitted deviation.

During the current year the following weights of gold and silver bullion have been melted into bars:

Denominations.	Ounces troy.	Parts.
Gold	2,239,847	28
Silver, 900 standard	5,230,487	57
Silver, 800 standard	4,679,402	58

Gold and silver premelted:

	Ounces troy.	Parts.
Gold	422,883	06
Silver	3,726,518	36

The losses are not yet ascertained, as a large quantity of ashes and old crucibles remains to be dealt with; but it will be found that the actual losses are not in excess of those of other mints.

The premelting losses are frequently heavy, from the impure state in which some of the bullion reaches the mint.

A large quantity of Tokugawa boos has been converted into bars for subsidiary coins; but the alloy used in the old coinage has caused considerable difficulty.

The memorandum from Mr. Atkin, the superintendent of the melting department, is attached to this report, in which these points are fully dealt with.

The new roof which has been placed over the center part of the mint appears to have answered its intended purpose, the interior being well ventilated, and, coupled with the changes in the latrines, has enabled the increased work to proceed, while the cases of serious illness among the officers and workmen have been comparatively few.

During the early part of the year silver bullion was received from the public for coinage, and in most instances required premelting, greatly interfering with the regular work, and causing so much delay as to render it necessary to erect a premelting-house and separate assay-room. Soon after these were completed the government declined to continue the coinage of the silver yen, or dollar, and, as silver from the public was no longer accepted, the assayer, Mr. Hunter, was transferred to assist Mr. Tookey, and the second assay-room closed.

The premelting-room has, however, proved of great value, as it has enabled us to use the original silver-melting room for gold. This arrangement is, however, not well adapted for permanent work, as the furnaces are too large, causing thereby waste of fuel. It is therefore necessary that the gold-melting room should be adapted to meet the increased work by the addition of more furnaces, and in this arrangement I purpose to introduce the new gas-apparatus which has been so successfully employed in large operations in Europe.

In this department we have four pairs of 11-inch rolls, two pairs of 14-inch rolls, and two pairs of Krupp's steel rolls, for finishing. These appliances are quite equal to the work, but of late the engine has been taxed beyond its powers, and until the new cylinders are added, by which we hope to double the power, it is impossible to obtain the best results from our machinery. The diversity of the coinage requires the addition of four new cutting-out presses, which have arrived and will be shortly at work.

There is a marked improvement in the regularity of the blanks, but there is room for still further improvement, which will result as the workmen become better acquainted with their duties.

Although the average weight of the out-turn of gold blanks has been within the closest limits of deviation, it being impossible to dispense with hand-weighing, as we have only two Napier's automaton balances, the results have not been so regular as will ultimately be the case when the additional automaton balances now ordered may be in operation. These or similar machines are alone to be depended on for the accuracy so necessary in a gold coinage.

A short time since it was found necessary to place this department entirely under the superintendence of Mr. W. Smith, an assistant engineer in the mint, and in consequence I am enabled to report a great improvement in weighing. He has also introduced a very important addition to the automaton balances, by which the number of pieces weighed by each machine has been increased from twenty-five to forty-five per minute. This rapid action is obtained by the addition of magnetic attraction to the depressing lever of the marker, and the accuracy of the work is as perfect as before.

The subsidiary silver coins have been "pounded;" that is, weighed as a given number to the pound avoirdupois; and, although this system is very generally adopted for this class of coinage, it produces considerable irregularity in single pieces, which would be better avoided. Further, before the silver subsidiary coins were regulated to the decimals of the gold yen these were heavier than they are now, being the decimals of the silver yen, and there are large quantities of these heavier coins in circulation.

The want of skilled workmen in this operation has been severely felt in the very irregular manner in which the coins have been heated. The old boos have caused great trouble and irregularity, sometimes resulting in excessive loss, which, although probably not exceeding the remedy, has increased the difficulty in the uniformity of the subsidiary coins.

Two Uhlorn presses have been recently erected in this department, resulting in greatly improved gold coins.

Eight more presses of this description are now in course of construction in Europe, and when these arrive I hope the workmen will be sufficiently trained to be able to produce a coinage quite equal to that of older established mints. The want of careful attendants on the presses has been a great drawback. After the dies are defective the pressmen go on and strike coins in quantities, more or less indifferent, until stopped by the foreman or his assistant. The Tokugawa boo-metal, of which the subsidiary coins are composed, has proved very difficult to strike. Not only are the blanks so hard as to take a very imperfect impression of the die, but the destruction of dies in consequence is unusually great.

Additional cylinders have arrived and will be attached so soon as a favorable opportunity arises for stopping the mint.

The number of dies produced during the year is as follows:

Total for gold coins	2,845
Total for silver coins	4,274
Total gold and silver dies	7,119

The improvement in the Japanese engravers and workmen in this department is very satisfactory; but much remains to be done before the engraving will equal in sharpness the productions of European die-engravers.

Great inconvenience has resulted in this department from steel in stock proving inferior in quality. The inattention of the die-turners, in failing to work carefully to the sizes given, is another serious difficulty, and the irregular work destroys the borders of the coins.

The polishing of the finished dies is not performed with sufficient care.

Large quantities of seals for government offices have been produced, and a series of silver-gilt, silver, copper, and bronze medals struck for the colony of Hong-Kong, to be issued for good conduct to members of the police force.

The workshops in this department have been fully employed during the year in the current repairs to machinery, die-turning, tool-making, &c.

Twenty-four iron bullion-trucks have been constructed.

File-cutting is now done on the premises.

These workshops have been also fully employed, and under the superintendence of Mr. Ono, a Japanese official, very excellent work is produced. Bullion-balances are made which compare well with those constructed in London, and the government offices at Yedo are supplied with weighing-apparatus from the mint.

Graphite of superior quality having been recently discovered in Japan, a large proportion of our crucibles will probably be made on the premises.

Although the conduct of these departments forms no part of the duties I undertook under the government, I consented in the first place to take charge of the completion of the mint in November, 1870, as the services of Mr. Waters were required by the government in the public works at Yedo.

The original buildings and arrangements, as you are already aware, proved far too limited for the unexpected demands on the mint, and entailed numerous changes, which, with the exception of the stone columns along the front and the raising of the portico, are now nearly completed. The enlargements and alterations have been carried out without stopping the working of the mint for a single day.

These alterations and additional works have necessitated the appointment of a regular staff and suitable offices for this department. At the special request of the government, I have accepted the direction and control of this staff. There are no Europeans excepting myself in this department, and I have to depend entirely on Japanese officers, to whom the greatest credit is due for their attention, perseverance, and skill. Mr. Yamaguchi is the efficient officer for making all contracts for materials and more immediately conducting the accounts, and in Mr. Hanada I have a most energetic and clever clerk of the works, while junior officers are rapidly gaining practical knowledge and becoming daily more useful. The following brief sketch of what has been done during the past year may interest you, as well as a description of the works in progress.

The drainage has been greatly improved, and a system commenced which, if carried out in accordance with the designs, will not only effectually drain the whole of the mint and works but the surrounding district, which is at present in a most unhealthy state.

In September the new raised roof, with ventilating windows along the entire length, was completed, and the old roof removed, without in any way interfering with the daily working of the mint.

The quantities of silver imported into the mint rendered a special premelting-house necessary. This was erected in direct communication with the melting department, so that Mr. Atkin's superintendence might be brought to bear. The house contains fourteen large air-furnaces on an improved construction and two reverberatory furnaces.

To obtain the required space the original laboratory had to be removed and a larger one erected in rear, attached to the chemical department.

These buildings were completed on the 5th February.

Six new strongholds for bullion in work were erected for the various departments, all opening into the main corridor; the old strongholds were not only too small, but inconveniently placed.

The original offices in the commissioner's department proved too limited for the number of persons employed, and it was deemed advisable to fill up the space between the mint and the bullion offices by a suite of offices for the director, his secretary, and Japanese drawing clerk, thus enabling the transfer of the director's original offices to the commissioner. These alterations are now completed, and add greatly to the convenience for the conduct of public business. An entrance to the mint-buildings for the workmen, by which every man must pass through the police office in a state of nudity, is also arranged, while a separate doorway from the entrance of the director's offices will accommodate the European officers.

In February last I had the honor to receive instructions from your excellency to design and erect with all possible speed a suitable mint for the coinage of copper, and capable of striking some *140,000,000 pieces annually.

The designs were at once prepared, the foundations are already in a forward state, and part of the new buildings even now completed. The engines, rolling-mills, and furnace-fittings are in a state of forwardness, and if the anticipations as to shipment of these are carried out, I hope to have the new mint ready to commence work by the middle of the ensuing year. The following dimensions will afford some idea of the magnitude of the works, which have been of necessity somewhat re-

*This large quantity arises from the small value of the copper coins, viz: cents, half-cents, and mills.

stricted as to size and arrangement by the land at the disposal of the government; nevertheless I feel every confidence that the arrangements will be well adapted for intended purpose.

The total length of the main building is 440 feet; it is constructed of red brick, with stone basement and string course ornamented by variegated brick dressings and cornice. The frontage of this building will abut on the Yoriki-machi, and be lighted by a range of gas-lamps.

The interior will be divided into:

1st. The copper-refinery and melting-house, containing two large reverberatory furnaces and fourteen air-furnaces, suitable for 3,000-ounce plumbago crucibles. The dimensions of this house are 100 feet by 45 feet.

2d. The rolling and cutting room will be supplied with four pairs of 14-inch rolls and two pairs of finishing-rolls, and the necessary apparatus for cutting the blanks. Dimensions, 85 feet by 45 feet, with offset and yard for annealing-furnaces, acid-tanks, &c.

3d. Engine-room and boiler-house.

4th. The coining-hall* will be 230 feet in length by 45 feet wide, with yards and annealing-furnaces for blanks attached.

Strongholds and accountants' offices are arranged for each department, so as to cause no interference with the conduct of the work.

Enlarged workshops for fitters, turners, coppersmiths, &c., are already erected, and an increase of four fires provided for by additions to the present smithy.

On removal of the fitters from the present workshop the building will be used for reclaiming gold and silver from the old crucibles and ashes; the triturating mill will be transferred to the refinery, as well as the steam-engine now in use there, and a more powerful mill erected to meet the increased requirements.

In addition to the foregoing, large sulphuric-acid works are in course of erection, for the production from the first pair of chambers of about five tons of acid daily. The arrival of Mr. Roland Finch is most opportune, as he will be able to devote the whole of his attention to the details of construction in these large works, which, when completed, will be capable of producing about 5,500 tons of acid annually, with a view to supplying all the government requirements throughout Japan.

It is proposed to remove the apparatus for this process to the back of the refinery, and, to make room for the enlargement of the gold-melting room in the mint, to place all the refinery apparatus in one building, under the supervision of a suitable European officer.

The gas-works are in good order and are most efficiently worked by native operatives. When we adopt gas in the melting operations some additions will be necessary.

The continuation of this line to deep water, now in charge of Mr. Rogers, is nearly completed, and will be of great service to the mint when finished. The portion within the mint-grounds is of the greatest use in moving coals, timber, and building-materials.

The apparatus invented by Mr. Miller, of the royal mint, Sydney, for toughening and refining gold, has already arrived from England, and will shortly be in operation here.

His Majesty arrived at the mint on the 19th July, and departed on the 12th, residing at the reception-house, which by imperial command is in future to be designated "Sempukan."

This auspicious event must lead to beneficial results, as His Majesty

* Containing divisions for sorting, counting, packing, &c.

devoted much time to the mint and was evidently greatly interested in all the details of the coinage. I was not only highly honored by an introduction on the arrival of His Majesty, but on completion of the inspection was admitted to a special audience, when His Imperial Majesty graciously condescended to address me as follows:

"It is with much pleasure I look around the mint, now complete in its various departments. I feel all is entirely due to your exertions and diligence, which I deeply praise and fully appreciate."

While sincerely thanking His Majesty for these expressions, which repay me for the toil and anxiety I have had to contend against during my labors here, I cannot forget how much is due to those Japanese and European officers who have so ably assisted in the successful results which have thus far attended this important undertaking.

I have the honor to be, your excellency's most obedient servant,

T. W. KINDER,
Director of the Imperial Mint.

OSAKA, *August* 28, 1872.

APPENDIX.

Memorandum by Mr. Tookey, Assayer, Imperial Mint.

The work which has been done in the assay department of this mint differs both in its nature and amount from that which is usually dealt with in European or other minting establishments.

To a great extent an old coinage peculiar to the country has been and is now being converted into one of European type, in which the gold or silver is mixed with a definite proportion of alloy, not for the purpose of diminishing their value, but to impart the necessary hardness to enable the coins to resist wear and tear. In former times, before civilization had traveled eastward, the prevailing and quite natural custom was to take the gold or silver as it came from the mines or other sources and give it simply a portable form and more or less rude design. And in the present century even European coins of nearly pure gold and comparatively pure silver have been struck.

Though quite as convenient for the purposes of exchange, the pure metals will not bear much circulation and its attendant attrition without losing in weight; and to lessen this, one-tenth part by weight of copper is mixed with nine-tenths of gold or silver to produce gold or silver yens, and two-tenths of copper and eight-tenths of silver for the four subsidiary coins. In the case of silver it is advisable, though not absolutely necessary, that the copper should be of the same degree of purity as that required for gold. When the gold coinage was begun, brittle bars were a constant source of annoyance, and it became my duty to devise some means for avoiding so serious an inconvenience; after careful observation I was convinced that the cause (except in certain known instances) was due to impurities in the copper used as alloy: samples of native-made copper were obtained from all available sources, and yet the difficulty remained. As I had to execute the whole assay work of the mint, a complete chemical investigation was impossible, and having made some inquiries it was found that what the Japanese considered as a refining process was merely one of remelting; I therefore suggested to them certain conditions in the treatment of the copper which would insure a refining operation, and a marked improvement appeared in the production of perfectly malleable bars of standard gold.

Subsequently a few cases of brittleness occurred, some of which could be predicted from the state of the gold, but nearly all were doubtless caused from the incomplete manner in which the prescribed method of treating the copper had been carried out. At the present time the standard gold is as malleable as could be wished. During the past year only twenty-seven pots of bars have been stopped; five of these were from ingots which had been assayed outside the mint, the assay value stamped on them being in error to the extent of four or five parts per mil; two were from errors in the alloy calculations; eleven from the alloy not having been properly mixed with the gold; two were brittle from admixture of sweep ingots, and the rest were in error as to standard from causes not ascertained.

The brittle bars were restored to a malleable condition by a very simple method, which consisted in exposing the melted metal in an open crucible with enough borax to form a ring round its inner circumference; in some cases ten minutes was sufficient to effect the object in view, with this advantage, that the standard was not altered to any important extent. In the same way I have removed (after melting for two minutes) the brittleness of an English sovereign which, when broken across, showed the same appearances as the bars above mentioned.

An opinion has been advanced, which I think requires confirmation, viz, that brittleness may be developed in an ingot of soft gold by the addition of alloy; or, in other words, that there is latent brittleness in the gold itself. I am reminded of two experiments which I made when the annoyance was of daily occurrence; it was suggested that the gold from the refinery of which I have charge was the cause: (I may mention here that not one ingot of gold from that refinery has been brittle in the slightest degree.) I alloyed some of the same gold (which had yielded brittle bars with the ordinary copper) with electrotype copper, and the resulting metal was perfectly malleable; then I boiled some of the refinery copper solutions with pure copper filtered, and separated the copper from the solution by iron, melted the precipitated copper, and used it to alloy some refinery gold, with the same result as before, viz, tough metal. The experience therefore points to the fact that soft gold alloyed with properly refined copper will yield perfectly tough bars.

The application of chlorine for toughening gold has been successfully adopted in the London mint, but for gold which has been alloyed with copper for standard bars I think the borax process is preferable, on account of the small variation from standard which it involves, and which after a little experience can be easily adjusted.

The number of assays made in the department during the year amounted to 19,385, divided as follows:

Pot assays of standard metal	gold	1,424
	silver	4,502
Ingot assays of imported metal	gold	973
	silver	6,678
Assays of coins	gold	937
	silver	3,858
Refinery assays	gold	113
	silver	570
Parting assays of melted native coins (gold and silver)		330

An average of three weighings for each assay will give 58,155 weighings, and as each silver assay requires four and each gold assay twelve different operations before the value can be known, some idea may be formed of the amount of manipulation in this department.

The assay of silver by the volumetric method allows of the adjustment

of standard metal while the pots are in the fire, and is a great advantage over the method by cupellation, because it can be made with rapidity, and indicates accurately the proportion of silver throughout the mass; but as it is only readily applicable to metal the standard or fineness of which is approximately known, the ancient process by cupellation, with its modern corrections, is made use of to value ingots of unknown fineness.

In the case of ingots containing only small proportions of copper, an assay piece cut from any part of the ingot will fairly represent the whole mass, but when the proportion of copper increases, *e.g.*, in yen or subsidiary metal, (10 and 20 per cent. respectively,) then a pot assay after stirring will alone give an accurate result, because in silver-copper alloys the two metals have a tendency to separate on cooling, and consequently different parts of the ingot or bar do not contain thes same proportions of silver; it follows therefore that blanks cut out of a bar rolled to the proper thinness do not all yield by assay the same silver value, and to meet this difficulty what is called the "remedy" for fineness is allowed and fixed by law. The limits of this remedy should be equal to the variations from standard found in practice, and its only object is to allow of those coins being considered as standard which, from the cause above mentioned, unavoidably contain a little more or less silver than they would if the metal poured from the pots retained its homogenity on cooling. An assayer's duty, therefore, is to exercise the most scrupulous care that the coinage as a whole shall as nearly as possible contain the prescribed proportions of fine metal and alloy.

In this mint the "remedy" is the same for gold and silver, viz, 2 parts in 1,000, and it means that coins containing either 898 or 902 parts of gold in 1,000 are considered as "standard," which is 900 of gold and 100 of alloy. I may be allowed to express my opinion that this remedy is sufficient for the gold coinage and for the dollars or yens, but that for the subsidiary coinage it should be increased to at least 3 per mil.

Even the British silver coinage, the purity of which is so jealously observed, has been hitherto allowed a remedy of 4.16 per mil, though the coins are kept considerably within that limit or variation. As British silver standard is 925 of silver and 75 of alloy, and the unavoidable variations increase with the increase of alloy, I think that a remedy of only 2 per mil is not sufficient for a standard of 800 silver and 200 copper.

The standard of the coinage represented by the "pyx pieces," from the opening of the mint to June 18th, 1872, was found to be as follows:

	Pure gold or silver in 1.000 parts.
Gold coinage	899.77
Yens (silver)	898.66
Subsidiary coinage	798.45

These pieces are taken from time to time, according to the number of coins struck, sealed and locked up, and examined once yearly, to satisfy the government and the public that the "standard" of the coinage has been faithfully adhered to.

The "standard," as represented by the assays of coin taken daily from the coining department for 11 months, from August 4th, 1871, to the end of June, 1872, was for the—

	Pure gold or silver in 1,000 parts.
Gold coinage	899.79
Yens (silver)	899.70
Subsidiary coinage	799.43

These results are obtained from a much larger number of coins than those contained in the "pyx," the only difference being that the silver coinage shows 1 part in 1,000 more.

I must not omit to mention the very objectionable nature of the metal in Tokugawa boos; they contain large proportions of zinc, and from the volatile nature of that metal at high temperatures it is almost impossible to keep the standard of the pots, and consequently of the coins, within the proper limits. The work in this department has been much increased from this cause, especially when the metal has been melted in reverberatory furnaces.

The refinery attached to the assay department has, so far as I can see, reached its full power to issue refined nibus. The confined space in which it is placed prevents a more rapid execution of the work, and the addition of more workmen would hardly facilitate it. The total weight of nibus received has been 352,579 ozs., a portion of which is still in work—the value in yens, 1,872,662, (one million eight hundred and seventy-two thousand six hundred and sixty-two.) The gold and silver contents in these government nibus is very uniform. This alloy of gold and silver in the various gold (sometimes called gilt) coins of Japan is peculiar to the country, and even had it retained its integrity must sooner or later have been replaced by the more simple and conformable monetary system which her commercial relations with the West and America have already produced.

The production of sulphuric acid at a cheap rate on the spot will furnish the means for extracting those small quantities of gold contained in the silver of the country with a profit, which the present cost of imported acid does not permit.

In conclusion, I have to acknowledge the assistance which it was found necessary to obtain in consequence of the great number of premelted silver ingot assays. Mr. Mackenzie relieved me of these from November last to April in this year, and on the 29th of that month Mr. Hunter was placed in the department as assistant assayer.

I have also to regret my inability, from the constant daily pressure of work, to attempt such improvements and advantages in manipulation which the requirements in the department frequently suggest.

CHARLES TOOKEY, F. C. S.,
Assayer, Imperial Mint.

AUGUST 16, 1872.

Memorandum by Mr. Atkin, superintendent of the melting department, imperial mint.

I have the honor to submit herewith returns showing the amounts of gold and silver bullion melted into bars, also into ingots, during the past year, viz: from the 1st of August, 1871, to the 31st July, 1872. The losses cannot be correctly returned, as considerable quantities will be reclaimed from ashes and old crucibles when an opportunity offers for these to be dealt with.

GOLD-MELTING.

A great difficulty had to be overcome before good workable bars were obtained, viz, the copper supplied for alloying the gold was found to contain some impurity which caused the bars cast to be brittle and totally unfit for work. This has been now remedied by having the copper properly refined, and the bars now produced are perfect.

The dimensions of the bars used for the gold-coinage are as follows:

Twenty-yen	24 inches by 1.375 inches.
Ten-yen	24 inches by 1.125 inches.
Five-yen	24 inches by 1.125 inches.
Two-yen	21 inches by 1.375 inches.
One-yen	24 inches by 1.125 inches.

The thickness of all bars cast is half an inch.

On gold melted into ingots the loss is very heavy, viz, 44 per millé. This is accounted for by the dirty state of bullion received from the public. This fact I have frequently reported. The present gold-melting room is far too small for the work required to be done. In fact, had it not been that the silver-premelting was discontinued, thereby enabling me to use some of the furnaces in the silver-melting room, the work could not have been done. It will therefore be advisable to have six or nine more furnaces built for the gold-work.

SILVER-MELTING.

During the early part of the year, in fact for the first six months, all silver was melted in reverberatory furnaces, owing to the non-delivery of crucibles from England. This process of melting at first caused great trouble and additional work, both in this and assay department owing to the difficulty in keeping the standard of so large a mass of metal (viz, 7,000 to 10,000 ounces) regular; but in time this difficulty was overcome, and the bars cast from these furnaces were found to be as good, both as regards standard and quality, as those produced from metal melted in plumbago crucibles.

The dimensions of the silver bars cast for this coinage are as follows:

Dollar	24 inches by 1.625 inches.
Half-dollar	24 inches by 1.375 inches.
Twenty-cent	24 inches by 1.125 inches.
Ten-cent	24 inches by 1.375 inches.
Five-cent	24 inches by 1.125 inches.

In January last orders were received that no more dollars were to be coined. This, of course, has greatly reduced the work of this department. This was required, for when we had a great demand for gold it was almost impossible to attend to the silver-work, at least to such an amount as was required daily for dollars.

The greatest daily outturn has been 120,000 of dollar bars, and 20,000 ounces of gold bars.

The addition of a new melting-house has been of great service, for without it it would have been impossible to have got through sufficient work to have kept the other departments working. The furnaces in this room are far more easy to be worked by Japanese, who are, as a rule, too short to work those in the former silver-melting room, and I should certainly suggest that should you decide upon building more furnaces for gold-work, it will be well to build them in the same way.

There has been an unusual loss on silver-bar melting, chiefly caused by the quality of the metal sent in for coinage. For instance, the boo-metal frequently shows a loss of 6 or 7 ounces per mille, and sometimes as many as four or five assays are made before it can be poured into bars. Even then pieces have been cut from bars and assayed, and a difference of 1 or 2 parts found. After premelting some of this metal, assay-pieces have been taken from the tops and bottoms of the ingots, and a

difference of 8 and 10 parts found. This, of course, gave great trouble when the ingots were potted for bars. The loss on premelting this metal in many cases amounted to 20 or 30 ounces per thousand. As I have before stated, the losses are fictitious, it having been impossible to arrive at the actual losses on melting, owing to the great pressure of work, but from the quantities of gold and silver which have been reclaimed from time to time from ashes and old crucibles, I can conscientiously affirm that the losses will be found to be very light.

This reclaiming will commence as soon as an opportunity offers and proper appliances provided. For the last year, in fact from the commencement of the work, this department has been debited with the oil and dirt which adhere to scissel and blanks received from the rolling department. This in many cases on gold amounted to .28 on 1,000 ounces, and on silver to .90 per 1,000 ounces.

During the summer of 1871 great inconvenience was experienced, owing to the want of ventilation in this department. For days, in fact for weeks, the thermometer ranged from 120 to 125 degrees, and this in parts of the room away from the furnaces. Many of the workmen were obliged to leave on account of sickness, and but for the addition of the new roof, which affords perfect ventilation to the mint, the work of this year could not have been carried on. Although the work has been heavier this year, the men have been able to get through it well, and very few cases of sickness from this department have been reported.

Another great improvement in the sanitary conditions of this department is by the removal of the old latrines, which were so placed as to be most offensive during hot weather, as the system of drainage at first was not equal to the increased number of workmen.

The removal of the stronghold to the corridor has given great facilities for the conduct of business in this department, for from the position it was formerly placed in it was necessary to stop work whenever bullion was required therefrom. Another great fault was that it was far too small for the requirements, and to bear this out I may mention that the present stronghold, although much larger, is at times quite full, and we are obliged to use another belonging to one of the other departments.

E. ATKIN,
Superintendent Melting Department.

AUGUST 24, 1872.

Extracts from a reply to the remarks of Mr. Fukuchi, relative to the coinage.

DIRECTOR'S OFFICE, THE MINT,
Osaka, August 12, 1872.

To the Commissioner, the Mint:

SIR: With reference to the translation of a document from Washington on the subject of the coinage of Japan, just received from you, I have the honor to offer the following remarks, which you will oblige me by submitting to His Majesty's government at Yedo.

I entirely agree that a bust (or head) of the Tenno would have been a far more suitable emblem on the coinage than the intricate form of dragon now adopted, more particularly as in the smaller coins the lines are too complicated and confused to produce a clearly-defined coin. Consequently, I strongly urge the removal of the dragon on the 10-cent and 2-yen pieces, to be replaced by the value alone in prominent Japanese characters, as is the case at present on the 1-yen (gold) and 5-cent pieces.

The coins sent to Washington as tests appear to have been selected at a very early stage of the coinage, and although in a mint nothing can excuse want of accuracy, still some allowance should be made in a new undertaking, placed, as this mint is, so far from assistance and supplies; also with the following disadvantages:

1. A very small staff of skilled officials, rendering it necessary that all the processes involve dependence on untrained labor.

2. A mint far too limited in its powers at starting to contend with the unexpected demand. It having been erected with a view to coin $25,000 per day, cannot at once jump to perfection for a coinage which, under pressure, has reached so much as a quarter of a million for several days in succession.

I offer no excuses for the work produced, for any unprejudiced person with the slightest knowledge of the circumstances must be equally surprised with myself at the progress made in so short a time.

Take the coinage now produced at the mint, or rather when the thickening of the coins, originally fixed at too large diameters, are struck, and I fearlessly assert that in all matters, excepting the designs and a few trifles dependent on a greater proficiency of the workmen, the coinage will be found equal to the work of any mint in the world.

The accuracy of the standard is as creditable to the mint as it should be satisfactory to His Majesty's government, and as to the weight of the pieces examined, I am surprised they are so near as they appear to be. The deviations are only in the coins which were pounded and not weighed singly. Thus the 1-dollar gold piece was at first weighed in this way. The subsidiary silver coins are also pounded, and extreme accuracy of each piece is not material; but in this coinage there are unfortunately two sets of weights—the one the decimals of the silver yen, and the other, as now alone adopted, the decimals of the gold yen. This will account for the wide divergence in the 20-cent piece.

Finding it necessary, I recently placed Mr. W. Smith to superintend the weighing department. The results are most satisfactory, but so long as we are dependent on hand-weighing we cannot reach the desired accuracy. I have therefore decided, in addition to the automaton balances now being manufactured at the mint, to indent for six more from England, so that all gold coins and also half-dollars may pass over these balances.

Mr. Smith has introduced one of the greatest improvements possible to the automaton balances, for which he deserves the highest praise. The machines now weigh forty-five coins per minute instead of twenty-five, with no loss of accuracy. With reference to the engraving, Mr. Sheard is perfectly aware of the faults and difficulties of the die department. Himself, neither wanting in professional skill nor experience, cannot do everything with his own hands, when, as during the past year, 7,119 dies have been required from his department. The real fault is not in the form of the die, but in consequence of the peculiar nature of the steel lately supplied the dies have sunk in the center; moreover, the subsidiary silver coins have been chiefly produced from Tokugawa boos. The metal is extremely hard, and the destruction of dies is enormous in consequence. The difficulties in the die and coining departments have been very serious from this cause. In my opinion, the Japanese engravers deserve the highest credit for the advancement they have made.

When the mint has been in existence a short time longer, the coinage will be equal in every respect to that of the United States.

Nothing would be easier than to fill this establishment with foreigners, and bring the products of the mint at once to the highest state of

perfection. But from the first the object has been to instruct and advance the Japanese in the work of coinage, and it is only with great reluctance, and after the most conclusive facts as to the necessity, that the appointment of additional foreign officers is recommended.

I do not understand the allusions to the dollar being too high in value, &c. It appears to be well within the legal limits. Nor do I concur in any change of the standard of the subsidiary coinage. The weight of the latter is another question, and may fairly be adjusted when the relative value of gold and silver is sufficiently defined.

I have the honor to be, sir, faithfully yours,

T. W. KINDER,
Director.

B 9.

Second annual report of the director of the imperial mint, Osaka, Japan, for the year ending 31st July, 1873.

To his Excellency SANGI OKUMA SHIGENOBU,
Minister of Finance:

YOUR EXCELLENCY: I have the honor to submit the second annual report on the mint for the information of His Imperial Majesty's government.

The following details relative to the receipt of bullion have been supplied by the commissioner of the mint, the chief of the bullion and accountant's department:

Amount of gold of standard fineness imported into the imperial mint during the year.

Imported by—	Ounces troy, at .900 standard.
Japanese	384, 268. 53
Chinese	21, 517. 34
Other foreigners	72, 206. 53
Imperial government	832, 303. 91
Total for 1872-'73	1, 310, 296. 31
Total for previous year	858, 226. 21
Increase 1872-'73	452, 070. 10

Description of gold bullion imported from the public during the year.

Description.	Ounces troy.
Gold bars of unknown fineness	336, 581. 94
Gold leaf of unknown fineness	25, 229. 33
San Francisco bars	70, 286. 14
American eagles	26, 857. 12
English sovereigns	1, 283. 70
Other foreign coins	182. 50
Total	460, 420. 72

Amount of silver of standard fineness imported during the year.

Imported by—	Ounces troy, at .900 standard.
Imperial government	2, 432, 375. 91
Total for previous year	4, 767, 175. 79
Decrease, 1872-'73	2, 334, 799. 88

Silver bullion imported from the public during the year, none.

Total for previous year, 2,715,797.36 ounces.

Mr. Masuda, the late commissioner, having recently resigned, Mr. Endo, the late assistant commissioner, has been promoted to the office.

The conduct of this branch of the service will no doubt continue to be as well performed as heretofore, Mr. Endo having been connected with the mint from the commencement, but the loss of such a valuable officer as Mr. Masuda, in any department of the public service, must always be a subject for regret.

The Oriental Bank Corporation continue to fulfill the duties devolving on them in their capacity as foreign bankers of the government in a most satisfactory manner. They are entitled to the thanks of the government for the care and judgment exercised in the selection of the officers sent out during the past year.

In the year ending 31st July, 1873, the following coins have been struck and passed for issue by the director, as shown by bullion-office returns:

Denominations.	Number.	Value.
Gold 20-yen	3,251	65,019
Gold 10-yen	1,005,917	10,059,169
Gold 5-yen	2,524,810	12,624,057
Gold 2-yen	506,152	1,012,301
Gold 1-yen	1,402,068	1,402,068
Total	5,442,198	25,162,614
Silver 1-yen, (none)		
Silver 50-sen	3,937,909	1,968,952
Silver 20-sen	6,344,426	1,268,883
Silver 10-sen	4,658,132	465,813
Silver 5-sen	5,768,541	288,426
Total	20,709,008	3,992,074
Grand total	26,151,206	29,154,688

The total number of pieces passed for issue was 26,151,206, and the real or nominal value $29,154,688, showing an increase on the previous year of 10,647,228 in the number of coins and the increase in value $8,076,022.

Some trifling alterations have taken place in the diameter of the coins, as follows, resulting in a great improvement in the appearance, as well as preventing the undue destruction of dies:

Diameters of gold coins.

Denominations.	Old measurement, English inches.	New measurement, English inches.
20-yen	1.37	No alteration.
10-yen	1.16	1.13
5-yen	.97	.87
2-yen	.72	.69
1-yen	.55	.50

The increased number of gold pieces struck amounts to 3,251,942, while the decrease in the number of dies worn out is 1,023, this saving resulting from the altered diameters of the coins and the improved quality of the steel, combined with greater care on the part of the workmen.

Last year to coin 2,190,256 pieces 2,024 dies were used.
This year to coin 5,442,198 pieces 1,001 dies were used.
The coinage of silver has been limited to the production of subsidiary coins, in which considerable improvements have been effected. The weight of each piece has been increased as follows:
50-sen from 193.0 grains to 208.00 grains.
20-sen from 72.2 grains to 83.20 grains.
10-sen from 38.6 grains to 41.60 grains.
5-sen from 19.3 grains to 20.80 grains.
The design of this coinage has been changed so as to indicate the value in large Japanese characters on the reverse, while on the obverse the value has been introduced in Roman characters. The diameter of the pieces has been adjusted as follows:

Diameters of silver coin.

Denominations.	Old measurement, English inches.	New measurement, English inches.
50-sen	1.25	1.22
20-sen	.93	.90
10-sen	.72	.72
5-sen	.61	.56

The 1-yen or trade-dollar has not been struck during the year, but now that a large supply of gold coins has been produced for the general commerce of the country, it is desirable some attention should again be devoted to the coinage of a silver trade-yen, which, among other advantages, may probably become the chief source of permanent employment for the mint.
In the memorandum of Mr. Dillon, the assayer, allusion is again made to the recommendation of last year for the remedy in fineness of the subsidiary coins to be increased to 3 per mil. Considering that, in addition to other cogent reasons given by Mr. Dillon, the remedy on English silver coins is 4 per mil, on American 3 per mil, and on the modern French coins also 3 per mil, it appears most desirable that the change should at once be adopted.
The copper coinage, for the production of which the preparations are nearly completed, will consist of the following pieces, viz:

Denominations.	Diameter, English inches.	Weight, grains.
2-sen	1.25	220
1-sen	1.10	110
½-sen	.87	55
1 rin	.62	14

The alloy will consist of 98 parts copper, 1 part tin, and 1 part zinc—100.
On these coins also the value will be indicated in large Japanese characters on the one side, and in Roman letters and numbers on the obverse.
The test-pieces have been regularly taken, in accordance with mint-regulations No. 3, and await the orders of the government.*

* See Annual Assay, &c., p. 310.

I have here to express my regret for an error in the last report, wherein the Hon. James Pollock, the Director of the United States Mint, was, through repeated translations of the dispatch, referred to as "James Porlock, esq., the commissioner," &c. The mistake arose from the copy of the original document in English having failed to reach my office.

The following is the list of European officers belonging to the director's department:

Mr. Ed. Dillon, B.A. and F.C.S., assayer.
Mr. Wm. Gowland, F.C.S., Assoc. R.S.M., chemist and metallurgist.
Mr. G. W. Hunter, assayer of premelted silver, &c.
Mr. E. Atkin, superintendent of gold and silver melting.
Mr. Herbert Wheeler, director's secretary.
Mr. Henry Sheard, die-engraver.
Mr. Ed. Wyon, foreman coining department.
Mr. Robt. MacLagan, engineer, foreman of artificers.
Mr. Wm. Smith, C.E., supt. of weighing-room and balances.
Mr. N. Mancini, foreman rolling-room.
Mr. Roland Finch, F.C.S., foreman of sulphuric-acid works.
Mr. T. Hackett, engineer, foreman of copper-rolling mill, &c.
Mr. T. Howlett, assistant foreman coining department.

The following remarks apply more especially to the various departments of the mint:

On the 29th April last the contract of the late assayer expired, and he returned to Europe. Mr. Dillon, late of the Royal mint, London, was appointed to continue the duties of the assay-office, so far as the assaying of all gold tendered for coinage and the assaying of all bullion in the process of coinage, &c., while Mr. Hunter takes charge of all silver sent to the mint to be premelted and valued; each officer assisting in other assays from time to time, as circumstances may render necessary.

In the recent change it is gratifying to be enabled to state there is no loss of efficiency in any respect, while there is a great improvement in the working of the office.

On the retirement of the late assayer, the apparatus for parting and refining gold and silver was removed from the assay department; and arrangements were also completed for referring all questions on chemistry and metallurgy to an officer specially appointed for the duty.

In the appendix will be found memoranda from Messrs. Dillon and Hunter, containing valuable information with reference to the details of the assay-office.

To Mr. Gowland, the chemist and metallurgist of the mint, (who also superintends the various operations in refining the copper, &c., required for the new copper coinage,) will in future be referred all questions connected with chemistry and metallurgy which may arise from time to time in the processes of coinage or in the examination of metals, &c., required in the various branches of the mint. A memo. from Mr. Gowland, containing some interesting details, will also be found in the appendix.

During the current year the following weights of gold and silver bullion have been melted into bars:

Denominations.	Ounces troy.		Operative loss per mille.
	Ounces.	*Parts.*	*Parts.*
Gold	3,468,316	58	.05
Silver	6,429,144	94	1.68

The losses will be considerably by the unreclaimed metal in old crucibles, ashes, &c.

Gold and silver premelted.

Denominations.	Ounces troy.		Loss per mille.
	Ounces.	*Parts.*	*Parts.*
Gold	437,744	17	.37
Silver	2,607,972	39	2.74

The higher losses on premelted bullion result from the impure state in which bullion is sometimes sent to the mint.

Considerable improvement has been made during the past year in the rolling department, and the working losses are much reduced.

Four cutting-out presses have been added to this department.

In the weighing of coins greater accuracy has resulted than during last year; in fact, the entire coinage has been produced far within a very close working remedy or permitted deviation, the limits of which are infinitely less than the deviation allowed by the regulations.

The gold coinage of the year proves to be within .03 per thousand ounces of absolute accuracy, and even this deviation will probably be reduced when the entire weighing is performed by automaton balances.

Eight Uhlorn presses have been erected in the coining-room; two more are under construction in Europe, and the old presses removed into the copper-coinage department. The workmen have advanced in skill, and with the perfect machinery now in use, a coinage is produced which may favorably compare with the work of mints much longer established.

The engines have had the new cylinders added since the last report, and the power increased in proportion.

It is satisfactory to report that the machinery and appliances throughout the mint are in the highest state of efficiency. In the new workshops, some powerful machines have been recently erected, and with the addition of the new foundery, the repairs of the machinery of the mint can be readily effected. The construction of most of our future requirements will be carried out on the spot.

One coining-press has already been completed, and a portion of a number of these machines for the copper coinage are in a forward state. Not only will there be a saving of time in this arrangement, but a large saving in cost, besides the opportunity afforded of training the workmen in the construction of high-class machinery.

The late foreman of this department having left the service at the expiration of his contract in November last, Mr. MacLagan, an engineer of considerable experience, was appointed to the vacant post.

The number of dies produced during the year is as follows:

For gold coins	1,269
For silver coins	3,840
	5,109

The number worn out compares very favorably with the former years, and there is a marked improvement in the dies in every respect.

In addition to the above, not only have the required new matrices been engraved for 50-sen, 20-sen, 10-sen, and 5-sen coins, but 470 seals have been delivered for the government offices; also 6,172 stamps, markers, and brands for the weights and measures department at Tokio.

The mint, residences, and works are in good order, and all necessary repairs have been effected as required.

The drainage of the mint and government property has been greatly improved; but beyond these limits the drainage remains in the same unsatisfactory state as heretofore, and the result may prove most formidable should any epidemic prevail in this district.

The buildings for the coinage of copper, described in my last report, are now completed, the barriers removed, the whole being attached to the mint, and the various operations will be conducted under the same rules and regulations. Refining of copper has already commenced, and in a few weeks coins will be struck.

The chemical and metallurgical laboratories are in regular operation, and analyses of Japanese coals, copper, &c., have been completed with comparatively favorable results, which, with other subjects of interest, are given in the memo. from Mr. Gowland. (See Appendix.)

The sulphuric-acid works have been some time in operation, and acid of the best quality is now manufactured in quantities far beyond our present requirements. The demand, when the uses of acid are better understood, will doubtless increase, and, when the public are aware that this article can be obtained in Japan, the importation from Europe will not be necessary.

Nitric acid for the purposes of the mint is also manufactured here.

The production of acid at a moderate cost admits of the removal with advantage of the gold contained in silver bullion. In future all silver containing six grains to the pound troy and upward will be refined.

The refinery is in perfect working order, and capable of undertaking for the public the parting of gold and silver, and also the purification of these metals, at very moderate charges.

The chlorine-gas apparatus, invented by Mr. Miller, of the royal mint, Sydney, has been erected, but the quality of the gold sent in for coinage has been such as to give no opportunity for enabling us to benefit by the use of this invention.

The gas-works are in a satisfactory condition, and the "Yoriki-machi," the street on which the new buildings of the copper department are placed, is now lighted with gas.

During the current year the mint was closed from the 1st September to 1st of October. Some dissatisfaction arose at the brief notice given to the public; and I then suggested, to prevent any future difficulty on this subject, it would be advisable for the government to fix a period during which the mint would be regularly closed annually. From subsequent events it is to be regretted this course was not adopted; for the future it would not only guide the public, but enable the government to afford the necessary relaxation to the officials of the mint. It should be borne in mind how exceptional has been the position of the European officials. Shut out, as it were, from the rest of the world, and being so continually engaged, an occasional change becomes imperative, alike on the score of health as well as a relief from such ceaseless monotony and really hard work. In European mints the work is not usually so continuous as it has been here, and little difficulty arises in obtaining any reasonable amount of leave. It is therefore hoped the government will issue instructions to meet this requirement.

In conclusion, the increased test of another year proves the system on which the various operations of the mint are conducted to result in efficiency and accuracy in all the details. It is encouraging to be able to report that the Japanese and European officials work harmoniously, and that the operatives are well conducted, also very regular in their

attendance. It affords me great pleasure to record my thorough appreciation of the highly satisfactory manner in which the European officials now attached to the mint have performed their duties during the past year.

I have the honor to be, your excellency's most obedient servant,

T. W. KINDER,
Director of the Imperial Mint,
Master of Her Majesty's late Mint, Hong Kong.

OSAKA, 18*th August*, 1873.

APPENDIX.

Account of all gold and silver money coined at the imperial mint during the periods ending on 31st day of July, in the years 1871, 1872, *and* 1873.

Date.	GOLD COINAGE.										
	20-yen.		10-yen.		5-yen.		2-yen.		1-yen.		Total value.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1871	None		None		None		None		None		
1872	42,845	$856,944	863,016	$8,630,176	873,949	$4,369,756	221,653	$443,312	188,793	$188,793	$14,488,981
1873	3,251	65,019	1,005,917	10,059,169	2,523,810	12,624,057	506,152	1,012,301	1,402,068	1,402,068	25,162,614
Total	46,096	921,963	1,868,933	18,689,345	3,398,759	16,993,813	727,805	1,455,613	1,590,861	1,590,861	39,651,595

Date.	SILVER COINAGE.										
	1-yen.		50-sen.		20-sen.		10-sen.		5-sen.		Total value.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1871	378,244	$378,244	330	$165	424,115	$84,823	553,270	$55,327	265,600	$13,280	$531,839
1872	3,306,730	3,306,730	3,190,221	1,595,110	1,789,101	357,820	3,572,860	357,285	1,454,810	72,740	5,689,685
1873	None		3,937,909	1,968,952	6,344,426	1,268,883	4,658,132	465,813	5,768,541	288,426	3,992,074
Total	3,684,974	3,684,974	7,128,460	3,564,227	8,557,642	1,711,526	8,784,262	878,425	7,488,951	374,446	10,213,598

Memorandum by Mr. Dillon, assayer, imperial mint.

I entered upon my duties as assayer on the 29th of April last, the day upon which the contract of the late assayer expired. My report can therefore only cover the three months that have elapsed since that date.

I would call attention to an important change that was made in this department upon the occasion of the retirement of the late assayer. Mr. Hunter has now entire charge of the assay of silver bullion imported for coinage, and it may not be inopportune to mention that although over 700 ingots have been potted on the result of his assays, no pot has as yet been rejected in consequence of error on this head.

During the months of May, June, and July, both gold and silver have been daily melted for coinage, and the following numbers give a summary of the work that has been done in this office:

I.—*Assays of gold bullion received for coinage.*

Premelted gold ingots	170
Ingots from mint refinery	18
San Francisco ingots	17
English ingots, melted by Messrs. Browne & Wingrove	421
Total	626

Of premelted gold ingots, eleven were rejected, being of too low standard to be received for coinage.

The English gold was accompanied by a "trade assay report," on the basis of which I believe the gold was bought. My report was, in most cases, 2 or 3 tenths of a millième below this. A similar overcalling of gold assays by trade-assayers has caused much trouble in the English mint, and last year gave rise to an arbitration, when the results of the mint-assayer were fully confirmed. For the causes of this overestimation, I would refer to Mr. Roberts's memorandum, appended to the report of the deputy master of the English mint for 1871.

II.—*Dip-assays from pots.*

Gold	279
Silver	946

Three of the gold-pots, potted from ingots received from the mint-refinery, and therefore not premelted, were stopped. They were of too low standard, although not out of remedy, and this arose, I believe, from the dirty condition the ingots were in when potted.

III.—*Assays from individual coins.*

Gold, (5, 2, and 1 yen pieces)	152
Silver, (50, 20, 10, and 5 sen pieces)	305

The average standard of the different coins, as calculated from the mean of these assays, is as follows:

Gold, 5-yen	899.94
2-yen	899.95
1-yen	899.81
Silver, 50-sen	799.59
20-sen	799.75
10-sen	799.60
5-sen	800.26

In addition, a large number of coins have been weekly melted into ingots, the assays of which have confirmed the above results.

The low standard of the subsidiary silver coinage causes some difficulty to the assayer. This is not so much from the impossibility of obtaining a homogeneous alloy, for I doubt if the tendency of the silver and the copper to arrange themselves uniformly in a bar on cooling is greater, or even so great, as in the case of a .900 standard. (See Leval's experiments in the Paris mint on alloys of silver and copper.) The difficulty in the case of an alloy of low standard arises from the changes in standard which the metal undergoes after leaving the melting-room, the result of the more frequent annealing both of the strips and of the blanks, necessitated by the greater hardness of the alloy. Again the process of "pickling," where the copper and oxide of copper are removed from the blanks before these are converted into coins, a larger quantity of base metal is removed than would be the case with an alloy containing less copper. This elevation of standard during the process of coining is incidental to all mixtures of copper with either gold or silver, (in the former case, however, it is small,) and it may be said to be roughly proportionate to the amount of copper present. The irregularity of the change renders it impossible to allow for it with any degree of accuracy in the process of potting.

These remarks are made to show that, however great the care exercised by the assayer and by the other officers through whose hands the silver passes in the processes of coining, there is likely to be a wider variation from the standard aimed at, in a silver coinage containing 200 parts of alloy in the 1,000, than would be the case where this alloy only constitutes 75 parts, as in the English coinage, or 100 parts, the proportion in the majority of other countries. The "remedy" for the English silver coin is 4 per mil., for the American, 3 per mil.; in Japan it is at present only 2 per mil.

We may, however, best compare with the silver coinage of Japan that which is now struck in France, Italy, Belgium, and Switzerland, in accordance with the monetary convention lately concluded between these countries, and upon the advice of the best European authorities on this subject. This is a token-coinage of 2-franc, 1-franc, and smaller pieces, containing 835 parts of silver in the 1,000, and the remedy fixed upon was 3 per mil. In France, however, the 5 franc piece, which, like the Mexican dollar, contains its own value of silver, is still struck .900 fine, with a remedy of two per mil., that of the whole French coinage so long as the standard was .900. It will thus be seen that on lowering the standard to .835 it was thought advisable to increase the remedy.

I think there are strong grounds, therefore, for the former recommendation that the remedy for the Japanese silver coinage should be extended from 2 to at least 3 per mil.

I have frequently noticed a considerable quantity of gold in the silver coinage. I believe that the government has been in the habit of receiving for coinage silver bullion containing gold to 6 grains in the pound as a limit. I may mention that in England silver containing over 2 grains in the pound may be profitably refined, and that it is proposed to extract the gold (some 4 to 5 grains) from the half-crowns struck in the beginning of the century, now being called in for recoinage.

The only examples of brittle gold that have come under my notice, as yet, were some bars cast from California ingots. These were quickly toughened by remelting with a little borax, according to the plan adopted by the late assayer, and as the elevation of standard was less than half a millième the gold could be poured at once into bars for coin-

age. There has been, therefore, no opportunity of employing the chlorine process that has proved so invaluable in the English mint, in the hands of Mr. Roberts.

Two "sweep ingots," weighing together, over 800 oz., cast from bottoms of pots, bar-ends, &c., were found to contain a large quantity of iridium, and were therefore stopped from passing into work. I have now concentrated this iridium in an ingot containing under 100 oz. of gold, and the rest may therefore be melted for coinage.

In conclusion, I would call attention to the somewhat exceptional nature of the work in this office. The assayer has to be, in great measure, his own fireman, and can never trust his eye off an assay during the many processes it passes through before the final weighing.

EDWARD DILLON, B. A.,
Assayer.

AUGUST, 1873.

Memorandum by Mr. Hunter, assayer, silver assay premelting department imperial mint.

The necessity for the existence of this department arises entirely from the exceptional nature of the work which devolves upon the assay-department of this mint.

In the minting-establishments of other nations all bullion is received accompanied by a reliable assay-report of an outside assayer, and the bullion merely receives, as it were, a check-valuation previous to being alloyed and passed into work. But, whether from the inadequate knowledge of assaying at present possessed by native assayers or from inattention in conducting the different processes, the variations between the out-door valuations of bullion and its actual value, as determined by assays in the mint, have been so wide that the original reports have afforded no assistance whatever in arriving at correct results. In some cases this variation has been as great as 11 per mil.; and, where successive ingots were found to be reported alternatively either too high or too low, it has always been deemed the safest and quickest course to ignore outside values altogether, and to perform the different operations from the very commencement.

The total number of silver ingots for coinage assayed since the report in August last amounts to 3,366. In addition to the valuation of silver bullion received into the mint for coinage, this department has also been serviceable to the imperial government in other respects. For instance, during the period of last year, when the imperial government for commercial purposes required a large quantity of silver bullion to be accompanied by a reliable assay-report, the whole of this work was thrown upon this department. This silver was cast into ingots in native establishments, and the assay-pieces, which were cut by native officials and forwarded through you for valuation, represent a total of upward of 2,400 assays.

This department has also subserved the purpose of fixing the value of all so-called "parting bullion." When the imperial government decided upon assimilating their old metallic circulating medium to the system of coinage adopted by western nations, the original gold and silver coins in circulation were gradually withdrawn for conversion into coins of the new standard of value. Before, however, issuing the ingots obtained from melting these coins to the various refineries, that both the gold and silver in them might be made separately available for coin-

age, a report on the relative amounts of gold and silver in each ingot was obtained from this department, and the figures show since August last a total of 1,650 assays.

GEORGE W. HUNTER,
Assayer.

ASSAY OFFICE, *August*, 1873.

Memorandum by Mr. Gowland, chemist and metallurgist, imperial mint.

COPPER-REFINING DEPARTMENT.

In the copper-refining department I have erected a moderately large reverberatory furnace for refining crude Japanese copper and producing therefrom ingots suitable for the subsequent preparation of the alloy for coinage. This furnace is capable of treating 7 tons of the impure metal per day, although, on account of the untrained condition of the Japanese workmen, a heavier charge than 4 tons has not yet been refined. The furnace works most satisfactorily.

MELTING-ROOM.

In the melting-room 14 crucible-furnaces for the preparation of the alloy have been built and all the necessary appliances are ready for the commencement of work. I have recommended the erection of a reverberatory furnace for the work of the department, as soon as the Japanese workmen have been trained in the manipulation of such a furnace by practice in the copper-refinery.

CHEMICAL AND METALLURGICAL LABORATORIES.

The laboratories in which all chemical and metallurgical questions, apart from the assaying of gold and silver, will be treated are now almost completely fitted, the arrival of the remainder of the apparatus and reagents being shortly expected.

Already the following work has been done:

REFRACTORY CLAYS.

A considerable number of different kinds of Japanese kaolin (impure) have been examined as to their suitability for the manufacture of firebricks.

Certain kinds have been found to be extremely refractory, comparing favorably in this respect with Stourbridge clay; other kinds, however, of almost identical appearance, undergoing fusion at the same temperature which the former resisted.

Vast deposits of this impure kaolin exists in the country; in some cases contaminated with large quantities of iron, and being then easily fusible; but in most cases, as in the whiter clays, the fusibility seems due to the presence of alkalies.

The varying refractory character of these clays, which resemble each other so closely in appearance that they can hardly be distinguished, will cause much difficulty in insuring uniform results in the manufacture of refractory bricks.

JAPANESE COAL.

The amount of sulphur and of ash present in the coal used in the copper-refinery and in the various metallurgical operations of the mint being of great importance, determinations of these impurities have been made in several kinds of Japanese coal.

The following are the results. The samples were dried at 100° cent. before analysis:

	1.	2.	3.	4.	5.
Ash	12.760	6.487	10.595	9.877	9.557
Sulphur	.654	.435	.461	.588	.383

It will be seen that the amount of ash is very large; the percentage of sulphur, however, being less than that present in average samples of ordinary British coal.

GOLD AND SILVER "SWEEP."

The gold and silver "sweep" I have carefully examined, and proposed a method for the recovery of the precious metals contained in it. Drawings for a furnace for its preliminary treatment have been prepared and the furnace has already been erected.

"BAD NIBUS."

Great difficulty having been experienced in separating the gold from "bad nibus" in the gold refinery by means of sulphuric acid, the matter was referred to this department. A chemical examination was made, when it was found that a modification of the process followed was necessary for their successful treatment.

TEMPOS.

I have made analysis of six different samples of tempos, and, as will be seen, the proportions of the constituent metals are extremely variable:

Copper	85.800	82.760	77.000	78.697	78.453	81.562
Tin	7.607	9.165	10.601	10.240	9.982	8.349
Lead	6.333	7.888	12.200	11.137	11.436	0.819
	99.740	99.813	99.801	100.067	99.871	99.730

Of twenty-six of these coins the weights varied from 265.5 grains to 371.9 grains, the mean weight being 321.7 grains.

JAPANESE COPPER.

The samples of Japanese copper which have been examined have all been remarkably free from antimony, and generally also from injurious quantities of arsenic. One sample, however, contained .159 per cent. of the latter metal, an amount which would render such copper totally unfit for the manufacture of brass and several other alloys in which great toughness combined with tenacity might be required. Another sample contained 1.348 per cent. of lead.

Certain kinds of very crude Japanese copper, usually seen in more or less circular cakes, resembling in form the "rosette" copper of Europe, are sometimes exceedingly impure, in come cases containing so much iron that a modification of the ordinary method of refining would be required for their treatment.

I may state that so far as I have at present examined Japanese copper I have found it to be generally of such a character that, when properly refined in a suitable furnace, it can be used with advantage in most cases where a pure copper is required.

Some caution, however, is necessary, the interfering metals met with occasionally rendering it imperative that careful analysis should be made as often as possible.

W. GOWLAND, F. C. S., Assoc. R. S. M.,
Chemist and Metallurgist.

AUGUST, 1873.

Relative approximate value of foreign gold coins, in gold yen, from which mint charges a 1 per cent. have to be deducted, and in some cases premelting and refining fees.

Country.	Denomination.	Weight, grains troy.	Fineness in thousandths.	Value in gold yen.
Austria	Ducat	53.85	986	2.29
Do	Souverain	174.87	900	6.79
Belgium	25 francs	122.14	900	4.74
Do	20 francs	99.50	900	3.86
Bolivia	Doubloon	416.50	870	15.65
Brazil	20 milreis	276.70	916.66	10.95
Central America	2 escudos	97.00	845	3.[illegible]
Do	Peso	24.00	900	0.93
Denmark	10 thaler	205.00	895	7.72
France	20 francs	99.56	900	3.87
Great Britain	Sovereign	123.27	916.66	4.88
Do	Half sovereign	61.63	916.66	2.44
Germany	20 marks	122.92	900	4.77
Do	10 marks	61.46	900	2.38
Do	10 thaler	206.22	902	8.03
Italy	20 lire	99.56	900	3.87
Mexico	20 peso, (Max)	521.00	875	19.69
Do	20 peso, (Republic)	519.00	873	19.57
Do	Old doubloon	417.70	866	15.62
Do	New doubloon	417.70	870.5	15.70
Netherlands	10 guilders	103.82	900	4.03
Do	5 guilders	51.91	900	2.01
Naples	40 lire	199.12	900	7.74
Do	20 lire	99.56	900	3.87
Do	6 ducati	116.86	996	5.03
New Granada	Doubloon	416.50	870	15.65
Do	New doubloon	416.50	858	15.43
Peru	Doubloon	416.50	870	15.65
Portugal	Half-coroa	136.83	916.66	5.41
Russia	5 rubles	101.00	916.66	3.99
Spain	100 reals	129.43	900	5.03
Sweden	Ducat	53.79	975	2.26
Turkey	100 piastres	111.35	916	4.40
United States of America	20 dollars	516.00	900	20.06
	1 dollar	25.80	900	1.00

In the foregoing table the most important coins are selected from each country, the remaining coins being usually in proportion. The weight and fineness are assumed from the reported rates, and not from actual assay. Should such bullion be sent to the mint for recoinage, it could only be accepted on the usual conditions.

In the present state of silver in this country, it is scarcely possible to give an approximate table of the relative value of foreign silver coins.

T. W. KINDER,
Director Imperial Mint, &c.

AUGUST 27, 1873.

Annual assay, &c., of trial pieces for the coins struck in the imperial mint during the year ending 31st July, 1873.

On the 4th day of September, 1873, by order of H. E. Sanji Okuma Shigenobu, H. E. Mutsz, vice-minister of finance, accompanied by Mr. Mawatori, chief commissioner of the treasury, with other officers of the imperial service, assembled at the mint for the purpose of testing the coinage of the past year.

His excellency the vice-minister selected indiscriminately from the pyx pieces collected daily a certain number of gold coins of the respective dates stated below. These coins were then accurately weighed with the following rates:

Denomination.	Date of selection.	Weight.	Standard weight.	Deviation allowed.
		Grs.	*Grs.*	*Grs.*
20-yen	None			
10-yen	Nov. 2, 1872	257.28	257.2	0.5
5-yen	Dec. 18, 1872	128.4	128.6	0.5
5-yen	Jan. 6, 1873	128.2	128.6	0.5
5-yen	May 25, 1873	128.7	128.6	0.5
5-yen	July 26, 1873	128.6	128.6	0.5
2-yen	Dec. 28, 1872	51.25	51.44	0.25
2-yen	June 27, 1873	51.4	51.44	0.25
1-yen	Jan. 25, 1873	25.82	25.72	0.25

A thousand pieces of each description of coin were then selected from the various packets and carefully weighed:

Denomination.	Weight of 1,000 pieces.	Standard weight of 1,000 pieces.	Deviation allowed on 1,000 pieces.
	Ounces.	*Ounces.*	*Ounces.*
20-yen, (gold)	None		
10-yen, (gold)	535.72	535.83	0.1
5-yen, (gold)	267.91	267.91	0.075
2-yen, (gold)	107.1	107.16	0.05
1-yen, (gold)	53.58	53.58	0.025
50-sen, (silver)*	433.30	433.33	0.15
20-sen, (silver)	173.34	173.33	0.1
10-sen, (silver)	86.54	86.66	0.05
5-sen, (silver)	43.32	43.33	0.05

* The silver subsidiary coins are "pounded," and not weighed separately.

Assays were made by Mr. Dillon of the following gold coins:

No. 1.—1 yen ..... 899.9 parts of gold in 1,000
2.—2-yen ..... 900.6 parts of gold in 1,000
3.—5-yen ..... 899.9 parts of gold in 1,000
4.—5-yen ..... 900.1 parts of gold in 1,000
5.—10-yen ..... 900.2 parts of gold in 1,000
6.—2-yen ..... 899.7 parts of gold in 1,000
7.—5-yen ..... 900.0 parts of gold in 1,000
8.—5-yen ..... 899.8 parts of gold in 1,000
9.—5-yen ..... 900.0 parts of gold in 1,000

Standard of above, .900, with a remedy or permitted deviation of 2 parts in each direction.

At the special desire of the vice-minister of finance, the whole of the remaining pyx pieces were melted into ingots, one ingot for each denomination of coins (except in the case of the 10 and 20 yen pieces, which were melted together.) Pieces from each of these ingots have been assayed, and the result in each case is within the remedy.

Gold:

Bar cast from 1-yen	899.9 parts gold in 1,000
Bar cast from 2-yen	899.9 parts gold in 1,000
Bar cast from 5-yen	900.2 parts gold in 1,000
Bar cast from 10 and 20-yen	899.4 parts gold in 1,000

Standard, .900, with remedy of 2 parts.

Silver, (subsidiary:)

Bar cast from 5-sen	800.3 parts silver in 1,000
Bar cast from 10-sen	798.2 parts silver in 1,000
Bar cast from 20-sen	799.5 parts silver in 1,000
Bar cast from 50-sen	800.5 parts silver in 1,000

Fineness, .800, with remedy of 2 parts.

Portions of each coin assayed, also pieces from each ingot, have been, at the request of the imperial government, inclosed in sealed packets and sent to the right honorable the lords commissioners of Her Britannic Majesty's treasury, with a request that check-assays may be made at the royal mint, London, and the report thereon sent for publication in this country.

T. W. KINDER,
Director Imperial Mint.

SEPTEMBER 8, 1873.

B 10.

Third annual report of the director of the imperial mint, Osaka, Japan, for the year ending 31st July, 1874.

To His Excellency SANGI OKUMA SHIGENOBU,
Minister of Finance:

YOUR EXCELLENCY: I have the honor to submit the third annual report on the mint, for the information of His Imperial Majesty's government.

To the commissioner of the mint, the officer who is responsible for all bullion deposited in the mint, and who is also the chief of the bullion and accountant's department, I am indebted for the following information relative to the receipt of bullion:

Amount of gold of standard fineness imported into the imperial mint during the year.

Imported by—	Ounces troy, at .900 standard.	
Japanese	164,327	79
Chinese	59,366	57
Other foreigners	17,345	53
Imperial government	215,954	82
Total for 1873–'74	456,994	71
Total for previous year	1,310,296	31
Decrease, 1873–'74	853,301	60

Description of gold bullion imported from the public during the year.

Description.	Ounces troy.	
Gold bars of unknown fineness	151,783	50
Gold leaf of unknown fineness	19,476	17
Gold bars of known fineness	1,153	88
San Francisco bars	51,533	16
Chinese bars	588	20
Australian bars	274	26
English sovereigns	431	40
Other foreign coins	342	47
Total	225,583	04

Amount of silver of standard fineness imported during the year.

Imported by—	Ounces troy, at .900 standard.	
Japanese	306,330	20
Chinese	64,271	84
Other foreigners	115,964	76
Imperial government	1,724,154	68
Total for 1873–'74	2,300,721	48
Total for previous year	2,432,375	91
Decrease, 1873–'74	131,654	43

Description of silver bullion imported from the public during the year.

Description.	Ounces troy.	
Silver bars of unknown fineness	504,008	29
Silver bars of known fineness	38,007	38
United States bars	6,171	05
San Francisco bars	6,909	40
Total	555,096	12

Mr. Endo, late commissioner of the mint, having been appointed to the office of Okura Daijio at Yedo, is to be replaced by Mr. Ishimal.

In the appendix will be found a list of the officials belonging to the commissioner's department.

The Oriental Bank Corporation continue in the position of foreign bankers and agents of the government, and, now the currency of Japan is becoming more fully recognized abroad, the influence and advantage of this connection are rapidly increasing in importance.

In the year ending 31st July, 1874, the following coins have been struck and passed for issue by the director, as shown by the bullion-office returns:

Denomination.	Number.	Value.
Gold 20-yen	None.	None.
Gold 10-yen	None.	None.
Gold 5-yen	1,724,158	8,620,801
Gold 2-yen	156,080	312,160
Gold 1-yen	438,811	438,811
Total	2,319,049	9,371,772
Silver 1-yen	724,107	724,107
Silver 50-sen	850,480	425,241
Silver 20-sen	4,020,159	804,033
Silver 10-sen	11,926,268	1,192,626
Silver 5-sen	7,011,515	350,577
Total	24,532,529	3,496,584
Copper 2-sen	2,334,551	46,691
Copper 1-sen	17,951,806	179,518
Copper ½-sen	10,844,740	54,223
Copper 1-rin	4,881,630	4,881
Total	36,012,727	285,313
Grand total	62,864,305	13,153,669

The total number of pieces passed for issue was 62,864,305 and the real or nominal value $13,153,669, showing an increase on the previous year of 36,713,099 in the number of coins and a decrease in value of $16,001,019.

There is a marked falling off in the coinage of gold, which was to be

expected, for not only has the rate of exchange ruled against the advantage of coining gold, but the total amount in circulation may be considered equal to about $1.50 per head of the entire population of the country, and it is scarcely probable any large increase will be necessary.

On the 17th March last the government issued the authorization for the coinage of a new silver one-yen piece of improved design, the weight to be 416 grains troy and the fineness .900, with the value clearly indicated thereon for the guidance of foreigners as well as Japanese. A considerable number of these coins have gone into circulation.

The government of the Straits Settlements recognized the new coin as a legal tender, and it was also accepted at other places on the coast of China. But although the Japanese silver yen as then proposed was the precise equivalent of the Hong-Kong dollar, the application to his excellency the governor of Hong-Kong for the Japanese yen to be proclaimed in that colony as a legal tender was, at the instance of the chamber of commerce, refused. Strange to say, however, the Canton government immediately proclaimed the coins for acceptance.

The new silver yen has been, so far, well received, but serious objections were raised as to the weight of 416 grains while the trade dollar of America weighed 420 grains.

The government have it under consideration how far it may be desirable to assimilate the weight of the Japanese yen with the American trade-dollar.

The same difficulty presents itself as appears to have been felt in the United States. The unit of value is the gold dollar in one case and the gold yen in the other, and each country had previously a silver coin of the same nominal value. The trade-dollar of the United States was authorized by the coinage act of February 12, 1873, and the addition to the designation was doubtless to distinguish it clearly from the previous silver dollar of 412½ grains in weight; "further, it is designed expressly for export, and has no fixed value as compared with gold. It is in no proper sense a monetary standard or unit of account, and is not included or referred to when the silver coins for home use are spoken of."*

From similar reasons, the Japanese government may deem it necessary to increase the weight of the silver coin intended solely for trade purposes among those who may find it inconvenient to adopt the gold currency of Japan. The designation, therefore, would no longer be a "yen," but as the weight and fineness in every respect equal the "trade-dollar," the same term may be adopted, thereby marking distinctly the increased value over the so-called silver or gold "yen." I have recommended that the legal deviation in weight should be one grain only in each direction, and the seigniorage or minting charge will probably be reduced to 1½ per cent.

The coinage of silver has been chiefly confined to the smaller denominations of subsidiary pieces, which continue to be in demand, and the silver coins already in circulation being equal only to about 41 cents per head of the population, a considerable increase may be looked for.†

The coinage of copper commenced in December last, and has steadily progressed. It has now reached some 36,000,000 pieces; to replace, however, the present copper coinage of the country will require many

* See Report of Hon. R. H. Linderman, Director of the United States Mint, for the year ending June 30, 1873, pp. 22 and 23.

†This only applies to the new issues from the mint; there is, besides, a large amount of silver in circulation of the old currency.

years for the production of the required amount, and increased coining power will be necessary to meet this demand.

On the 4th of September, 1873, the vice-minister of finance and other officials assembled at the mint for the purpose of testing the coinage of the year 1872-'73, and the result of Mr. Dillon's assays of the coins selected, with the weight of such pieces and others, appeared in the appendix of the report for last year, (see page 23.) As therein stated, at the special desire of the vice-minister of finance, portions of each coin assayed, also pieces from the ingots, were inclosed in 17 sealed packets and sent to the right honorable the lords commissioners of Her Majesty's treasury, with a view to moving their lordships to permit test-assays to be made at the royal mint, London. Their lordships granted the required permission, and on the 17th January last a letter was received from Hon. C. W. Fremantle, the master of the royal mint, (which will be found in the appendix,) inclosing the highly satisfactory report of W. Chandler Roberts, esq., chemist and assayer of the royal mint. Attention may be called to the very great accuracy of the results; the efficiency of the assay-office in this mint is thus thoroughly established, and calculated to increase largely the confidence already acknowledged in the coinage of this country.

Annual assay, &c., of trial pieces for the coins struck during the year ending 31st July, 1874.

On the 14th August, 1874, his excellency Yoshida Kiyonari, vice-minister of finance, accompanied by Mr. Endo, Okura Daijio, with other officers of the imperial service, assembled at the mint for the purpose of testing the coinage of the past year.

The vice-minister caused to be selected indiscriminately from the pyx pieces collected daily a certain number of coins, which were then accurately weighed, with the following results:

Denomination.	Date of coinage.	Weight in grains.	Standard weight.	Deviation allowed.
			Grains.	*Grains.*
5-yen	No. 1*	128.36	128.6	0.5
5-yen	No. 2*	128.42	128.6	0.5
5-yen	No. 3*	128.51	128.6	0.5
5-yen	Feb. 2, 1874	128.33	128.6	0.5
5-yen	June 8, 1874	128.43	128.6	0.5
2-yen	Dec. 26, 1873	50.47	51.44	0.25
2-yen	Dec. 22, 1873	51.06	51.44	0.25
1-yen	Feb. 17, 1874	25.52	25.72	0.25
1-yen	Feb. 17, 1874	25.70	25.72	0.25
1 silver yen	Apr. 30, 1874	416.53	416	1.5
1 silver yen	July 10, 1874	417.18	416	1.5

*Selected indiscriminately.

Indiscriminate selections of each description of coin from the various packets were then weighed:

Denomination.	Weight of 1,000 pieces.	Standard weight of 1,000 pieces.	Deviation allowed on 1,000 pieces.
	Ounces.	*Ounces.*	*Ounces.*
5-yen	267.90	267.91	0.015
50-sen*	433.00	433 33	0.15
20-sen	173.35	173.33	0.1
10-sen	86.70	86.66	0.05
5-sen	43.40	43.33	0.05

*All subsidiary silver and copper coins are "pounded."

One hundred silver yen were found to weigh 86.83 ounces. The lowest weight allowed for this quantity would be 86.34 ounces, and the highest, 86.97 ounces.

The very small quantities of gold one and two yen which had been collected on the few struck this year were weighed, resulting in the average on 1 yen being 25.66 grains, and on 2 yen 51.42 grains.

The copper coinage was tested as to weight, with the following results:

Denomination.	Actual number of pieces in the pound avoirdupois.	Number of pieces allowed by regulation.
Two-sen	32	31¼
One-sen	63¼	63¼
Half-sen	127	127
One-rin	509	500

Assays were made by Mr. Dillon of the following coins:

GOLD.

No. 1.—1-yen	899.9	parts of gold	in 1,000.
No. 2.—1-yen	899.9	do.	do.
No. 3.—2-yen	900.0	do.	do.
No. 4.—2-yen	900.1	do.	do.
No. 5.—5-yen	900.0	do.	do.
No. 6.—5-yen	899.8	do.	do.
No. 7.—5-yen	899.8	do.	do.
No. 8.—5-yen	899.6	do.	do.
No. 9.—5-yen	899.9	do.	do.

SILVER.

No. 10.—1 silver yen	900.8	parts of silver	in 1,000.
No. 11.—1 silver yen	900.2	do.	do.

Standard of the above, $\frac{900}{1000}$ths, with a remedy or permitted deviation of 2 parts in each direction.

As on the former occasion, the whole of the remaining pyx pieces were melted into ingots; pieces from each ingot have been also assayed by Mr. Dillon, with the following results:

GOLD.

No. 12.—Bar cast from 1 yen	899.9	parts gold	in 1,000.
No. 13.—Bar cast from 2 yen	900.0	do.	do.
No. 14.—Bar cast from 5 yen	899.9	do.	do.

SILVER.

No. 15.—Bar cast from 1 yen	900.1	parts silver in 1,000.

Standard of above, $\frac{900}{1000}$ths, with remedy of 2 parts.

SUBSIDIARY SILVER.

No. 16.—Bar cast from 50 sen	799.7	parts silver	in 1,000.
No. 17.—Bar cast from 20 sen	799.6	do.	do.
No. 18.—Bar cast from 10 sen	799.8	do.	do.
No. 19.—Bar cast from 5 sen	799.8	do.	do.

Fineness, $\frac{800}{1000}$ths, with remedy of 2 parts.

Portions of each coin assayed, also pieces from each ingot, have been, at the request of the imperial government, inclosed in sealed packets, with a view to sending them to the right honorable the lords commissioners of Her Britannic Majesty's treasury, to be tested in the same manner as those of last year.

The following is the list of the European officers belonging to the director's department:

Mr. Ed. Dillon, B. A., assayer.
Mr. William Gowland, Assoc. R. S. M., chemist and metallurgist.
Mr. G. W. Hunter, assayer of premelted silver, &c.
Mr. Edward Atkin, superintendent of gold and silver melting.
Mr. Herbert Wheeler, director's secretary.
Mr. Henry Sheard, die-engraver.
Mr. Ed. Wyon, foreman coining department.
Mr. Robert MacLagan, engineer, foreman of artificers.
Mr. N. Mancini, foreman rolling-room.
Mr. T. Howlett, assistant foreman coining department.
Mr. Robert Smith, engineer, foreman copper-rolling mill, &c.
Mr. Roland Finch, F. C. S., foreman of sulphuric-acid works.

It became necessary for Mr. Hackett to return to England in March last, when Mr. Robert Smith succeeded him.

Recently Mr. William Smith, the late superintendent of the weighing-room and balances, retired from the service, in consequence of urgent private affairs requiring his presence in England. As a temporary arrangement Mr. MacLagan will take charge of all balances throughout the mint, and Mr. Wheeler will be responsible for the accurate weight of the coins.

In the director's department are likewise included the following Japanese officials and operatives:

Mr. Ohno, foreman of coppersmiths and balance-makers.
Thirty-five assistant foremen and cadets.
Three hundred and thirty-one operatives.
Total in executive department, 380.

Referring to the various departments of the mint:

No change has occurred since last report in the assay office, where the business continues to be conducted with the greatest care and ability.

In the Appendix will be found copies of documents especially referring to this department, also memoranda from Messrs. Dillon and Hunter, relative to some of the details of the assays during the past year. The facts referred to by Mr. Dillon as to the variations between the center and edge of the same strip of silver are especially worthy of attention, proving the necessity for extreme caution when reporting on the standard of large coins. To this variation may be attributed the divergence which is sometimes met with in the assay reports of pieces so large as the dollars of various denominations.

In the numerous demands which it has been necessary to make on the chemical and metallurgical department, the anticipated advantages from this important addition to the mint have been fully realized, as is shown in the memoranda of Mr. Gowland, which will be found in the Appendix.

The following weights of gold and silver bullion have been melted into bars:

Denomination.	Weight.		Operative loss per mille.
	Ounces.	*Parts.*	*Parts.*
Gold	1,073,667	59	.06
Silver	1,786,686	89	1.00

Gold and silver premelted.

Denomination.	Weight.		Loss per mille.
	Ounces.	*Parts.*	*Parts.*
Gold	203, 439	65	43
Silver	1, 512, 863	65	2. 80

The excessive loss on premelted silver results from the impurities in some of the bullion sent to the mint.

The gold-melting room contains 12 air-furnaces and the silver-melting room 25 air-furnaces of the ordinary construction.

Against the total operative losses a large quantity of crucible-dust, &c., has accumulated at the mint, waiting for some period of less pressure to be so dealt with as to reclaim the gold and silver. It is calculated that some $25,000 may be looked for from this material when Mr. Gowland can undertake the operation.

The rolling department continues to work satisfactorily. Including the copper-rolling room, it contains in all 6 pairs of 14-inch rolls, 4 pairs of 11-inch rolls, 2 pairs of Krupp's finishing-rolls, 8 hand-feeding cutting-out presses, and 4 self-acting presses, 2 drag-benches, and other appliances.

The weighing-room now contains ten automaton balances, capable of weighing accurately 100,000 coins per diem. Four of these balances, ordered some time since, remain undelivered.

Some difficulty presented itself from the want of experience and attention on the part of the workmen in the annealing-room; blanks, from loss of alloy, were lowered slightly in weight, but raised in fineness, consequently all gold pieces and silver dollars will in future be weighed, not only as blanks but after coinage also.

The silver dollars have been purposely weighed above the standard weight rather than below; in fact, making the true weight the lowest point of deviation, which will account for these pieces being $1.82 per thousand on the average heavier than the standard weight.

The deviation on the whole coinage struck at the mint during the current year is as follows:

Total deviation per $1,000 on 5 yen	0. 0008
Total deviation per $1,000 on 2 yen	*0. 0427*
Total deviation per $1,000 on 1 yen	*0. 054*
Total deviation per $1,000 on silver yen	*1. 82*
Total deviation per $1,000 on 50 sen	*0. 0035*
Total deviation per $1,000 on 20 sen	*0. 0065*
Total deviation per $1,000 on 10 sen	*0. 063*
Total deviation per $1,000 on 5 sen	0. 084

The 2 and 1 yen gold pieces, hitherto chiefly weighed by hand, will be, by the aid of additional automaton balances, also weighed on these machines; but it is found in practice exceedingly difficult to produce this coinage within the present very limited working remedy.

Considerable vibration has of late been perceptible in the floor of the weighing-room; during the vacation the present wooden floor will be removed and an iron one laid down on concrete, which will doubtless correct the defect.

In the coining department there are now ten "Uhlorn" and two "Thonnelier" presses, with six "Watts" presses in the copper-coining room, in which are also at work three others constructed at the mint—twenty-one in all. The "Watts" machines have been placed in thorough repair, and are now producing good coins.

Considerable improvement has taken place in the coinage now being struck, and the results are very satisfactory.

The year has passed without any accident to the machinery, and the engines have worked with the greatest regularity; the punctuality of the commencement and continuance of the work during the appointed hours has been most marked. It will of course be necessary at the annual vacation to thoroughly examine every part of the machinery and replace worn parts wherever required.

Several additions to the machinery have been constructed in this department, viz: Three coining-presses completed and at work, two nearly finished, and three more considerably advanced; one large self-acting blank-press has been erected and found to work efficiently, also a blank-reducing machine, a most perfect automaton set of balances for weighing four dollar-blanks at each revolution, added to other smaller machines, and the very considerable item of renewals of appliances for the copper refinery, &c., afford substantial proofs of the state of this department.

The number of dies produced during the year is as follows:

For gold coins	221
For silver coins	1,140
For copper coins	2,792
	4,153

Total dies worn out:

For gold and silver coins	1,078
For copper coins	1,738
	2,816

The dies are greatly improved, and the present mode of polishing gives far better results.

New matrices were engraved for the silver yen and other coins.

In addition to the above, marks, brands, stamps, &c., have been executed for the weights and measures department at Tokio, amounting in value to some $5,000, which cannot be classed as mint work.

The mint-buildings are in good order, with the exception of a settlement in the external wall at either end of the main building and some defects in the roof, which will necessitate some modifications and repairs. The timber used in the construction of the officials' residences is rapidly decaying, and considerable repairs will be necessary ere long.

The barracks built some three years ago for the mint guard are in such a dilapidated state that new buildings on a more substantial scale are being erected.

Beyond the mint and government properties no improvement in the drainage of the district has been effected. In order to improve the drainage from some of the residences of the mint employés, it will be necessary to raise the earth some 4 to 5 feet.

About 433 tons of Japanese copper have been refined during the year.

There is a large surplus stock of acid on hand, for which a very inadequate demand appears to exist in this country; moreover there is the usual want of confidence operating against most new undertakings to be overcome.*

The introduction to a large extent of arts and manufactures into this land of cheap labor should be encouraged by every available means. It has been truly remarked elsewhere that the "commercial prosperity of

*In Mr. Gowland's memorandum in the appendix, p. 328, will be found an analysis of the sulphuric acid produced at these works.

a country may be judged of by the amount of acid which it consumes." There is certainly considerable scope for improvement in this respect in Japan.

Nitric acid can be supplied from these works.

The operations in gold and silver refining are carried on under the conduct of Mr. Kusi.

Mr. Miller's chlorine-gas apparatus has only been used to a small extent experimentally.

The prospective increase in the consumption of gas has rendered some extensions necessary at the works, and a main will be laid along the entire front of the mint premises, to convey gas to the new barracks, the entrance-gates, and road.

The mint was closed from the 1st October to 15th November, when the examination of, and repairs necessary to, the machinery, &c., were effected, and on the 2d December coinage was again resumed. It is now arranged that the mint (without further notice than that already given)* will be closed to the public for the reception of bullion from the 1st September to the 15th November in each year, thus affording to the officials the required relaxation for about six weeks annually.

During the past year the visitors to the mint have been as follows:

Japanese	19,516
Foreigners	214

COST OF MINT.

From the commissioner's accounts, it appears the total cost of the mint establishment, from the commencement of the works in 1868 to 31st July, 1874, amounts to $1,960,075.

This sum includes the original mint-buildings, the additions and enlargements for coinage of copper, the bullion offices, residences for officials and workmen's barracks, gas-works, coke-ovens, store and coal sheds—in fact, all buildings and appliances of whatever kind—machinery imported and manufactured, stores from Europe and Japan, coals, &c., as well as all salaries, wages and every contingent expense. The appropriation of portions of this sum to capital account and current expenditure presents the usual difficulties—large additions to the machinery having been constructed on the premises, which, with endless other appliances, are, in the accounts referred to, included in current expenditure.

The following division does not accord exactly with the accountant's arrangement, but I consider it a fair approximation of the total under the two headings, viz:

	Yen.
Capital account	1,500,000
Current expenditure to 31st July, 1874	460,075
	†1,960,075

For this outlay of $1,500,000, the government possesses a most efficiently appointed mint, complete in itself, and capable of producing 300,000 to 400,000 coins of mixed denominations, or 100,000 dollars, per diem.

Some estimate may be formed of the extent and capacity of the establishment by reference to a statement in the appendix, showing the superficial area of the principal departments. Of the imported stores included

* See Appendix, p. 322.

† The cost of the sulphuric-acid works is not included in these figures.

in current expenditure, there may be sufficient in stock to supply the requirements of the coming year.

THE GROSS EARNINGS OR RECEIPTS OF THE MINT.

The gross receipts of the mint, from the commencement of the coinage in 1871 to July 31st, 1874, are as follows:

	Yen.
GOLD.	
Seignorage, premelting fees and assay	475,636
SILVER.	
Seignorage, premelting and assay fees, and profit on subsidiary coins	1,543,141
COPPER.	
Estimated gross profits on copper coinage	140,000
	2,158,777

ESTIMATED ANNUAL EXPENDITURE.

The estimated expenditure for the ensuing year, including salaries, wages, stores, coals, &c., may be taken as follows:

	Yen.
DIRECTOR'S DEPARTMENT.	
Pay of European officials, 36 Japanese subofficials and cadets, and 331 operatives	102,540
Probable value of stores, coals, crucibles, stationery, &c	51,000
COMMISSIONER'S DEPARTMENT.	
Pay of 16 officials and 108 subofficials and servants	62,000
Total	215,540

The above figures are of course subject to some variation, as much will depend on the actual operations of the mint; and as the employés become more thoroughly acquainted with the duties, superfluous and indifferent men may be dispensed with and expenses decreased.

With reference to the expenses of the director's department, it must be borne in mind that the great distance from supplies and the necessity for the means being at hand to replace worn-out apparatus or injured machinery, render many adjuncts imperative, which would not be required elsewhere. Not only are the engineer's workshops, smithy, &c., on a larger scale, but a foundery had to be erected.

Copper, which in any other mint would be received in a state suitable for coinage, has here to be refined. The production of coke, gas, and other requirements tend to swell the number of the mint operatives. Again, attention should be directed to the large number of coins produced, for this is the chief test to enable a fair estimate to be formed as to the capabilities of a mint. The value of the out-turn is no indication of the labor and attendant expenditure, as the trouble and cost of striking a copper rin (1,000 pieces being equal to one yen) is nearly the same as would be the case in producing a gold coin of similar dimensions. It will be found that the expenditure compares favorably with any similar establishment where a like out-turn in number of coins is produced.

I have the honor to be, your excellency's most obedient servant,

T. W. KINDER,
Director of the Imperial Mint,
Master of Her Majesty's late Mint, Hong-Kong.

OSAKA, (JAPAN,) 18*th August*, 1874.

APPENDIX.

Account of all gold, silver, and copper money coined at the imperial mint during the periods ending on July 31, in the years 1871, 1872, 1873, and 1874.

GOLD COINAGE.

Date.	20-yen.		10-yen.		5-yen.		2-yen.		1-yen.		Total value.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1871	None										
1872	42,845	856,944	863,016	8,630,176	873,949	4,369,756	221,653	443,312	188,793	188,793	14,488,981
1873	3,251	65,019	1,005,917	10,059,169	2,523,810	12,624,057	506,152	1,012,301	1,402,068	1,402,068	25,162,614
1874	None				1,724,158	8,620,801	156,080	312,160	438,811	438,811	9,371,772
Total	46,096	921,963	1,868,933	18,689,345	5,121,917	25,614,614	883,885	1,767,773	2,029,672	2,029,672	49,023,367

SILVER COINAGE

Date.	1-yen.		50-sen.		20-sen.		10-sen.		5-sen.		Total value.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1871	378,244	378,244	330	165	424,115	84,823	553,270	55,327	265,600	13,280	531,839
1872	3,306,730	3,306,730	3,190,221	1,595,110	1,789,101	357,820	3,572,860	357,285	1,454,810	72,740	5,689,685
1873	None		3,937,909	1,968,952	6,344,426	1,268,883	4,658,132	465,813	5,768,541	288,426	3,992,074
1874	724,107	724,107	850,480	425,241	4,020,159	804,033	11,926,268	1,192,626	7,011,515	350,577	3,496,584
Total	4,409,081	4,409,081	7,978,940	3,989,468	12,577,801	2,515,559	20,710,530	2,071,051	14,500,466	725,023	13,710,182

COPPER COINAGE.

Date.	2-sen.		1-sen.		½-sen.		1-rin.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1874	2,334,551	46,691	17,951,806	179,518	10,844,740	54,223	4,881,630	4,882	36,012,727	285,314

Total number and value of coins produced from the commencement to July 31, 1874: number of pieces, 106,141,048; value in yen, 63,018,863.

Government notifications referring to the mint.

On the 25th February, 1874, a notification to the following effect was received:

"The mint will be closed for the reception of bullion from the public from the 1st day of September to the 15th day of November in each year.

"OKUMA SHIGENOBU,
"*Okura Kiyo.*"

Notification No. 26.

[Translation.]

To the FU AND KEN:

Notice is hereby given that the mint, Osaka, will be open for the receipt of silver bullion from the public (Japanese and foreign) on and after the 16th instant.

OKUMA SHIGENOBU,
Okura Kiyo.

13th, 3rd Month, 7th Year of Meiji.

Notification No. 34.

[Translation.]

It is hereby notified to the public that the silver one-yen which is to be struck at the mint will be changed in design, as shown on annexed sheet.

In case the silver bullion imported into the mint by the public for this coinage should at any time exceed the amount which could be struck in one month, the bullion would only be accepted conditionally and coined in order of receipt.

SANJIO SANETOMI,
Daijio Daijin.

20th, 3rd Month, 7th Year of Meiji.

Letter from Charles W. Fremantle, master of the royal mint, London, with the reports on assays of coins, &c., of 1872-'73.

ROYAL MINT, *20th November*, 1873.

SIR: I have received from the lords commissioners of Her Majesty's treasury a copy of your letter of the 8th September last, transmitting gold and silver assay pieces from pyx coins and ingots of the imperial Japanese mint, and in compliance with their lordships' directions I have caused test assays of each piece to be made in this department.

I have the pleasure to transmit herewith a statement furnished by Mr. Roberts, chemist and assayer of the mint, showing the results of the assays made. Those results are eminently satisfactory, and I trust that you will allow me to offer you my congratulations on the additional proof which they afford of the accuracy of the operations of the mint under your charge.

In accordance with your request, a statement of the mint-charge for making these assays, amounting to £2 2*s.* 6*d.*, has been forwarded to the Oriental Bank Corporation,

I have the honor to be, sir, your obedient servant,

C. W. FREMANTLE.

Major KINDER, *Osaka.*

Assay reports on portions of "pyx coins" and pieces from "test ingots" sent from the imperial mint of Japan.

No.	Denomination.	Japanese mint assay.	Royal mint assay.
	GOLD.		
1	1-yen coin	899. 9	900. 0
2	2-yen coin	900. 6	900. 4
3	5-yen coin	899. 9	900. 3
4	5-yen coin	900. 1	900. 1
5	10-yen coin	900. 2	899. 7
6	2-yen coin	899. 7	899. 7
7	5-yen coin	900. 0	900. 0
8	5-yen coin	899. 8	900. 0
9	5-yen coin	900. 0	899. 9
10	1-yen bar	899. 9	899. 6
11	2-yen bar	899. 9	900. 0
12	5-yen bar	900. 2	899. 9
13	10 and 20 yen bar	899. 4	900. 0
	Mean	899. 97	899. 99
	SILVER.		
14	5-sen bar	800. 3	801. 4
15	10-sen bar	798. 2	798. 6
16	20-sen bar	799. 5	799. 7
17	50-sen bar	800. 9	802. 0
	Mean	799. 62	800. 42

WM. CHANDLER ROBERTS,
Chemist and Assayer of the Mint.

ROYAL MINT, 20*th November*, 1873.

Memorandum by Mr. Dillon, assayer imperial mint.

The amount of work received in this office has been much reduced during the latter half of the official year.

The silver trade-yen, of which the coinage was resumed last March, has since then been struck simultaneously with the subsidiary coinage of lower standard.

The following analysis of the work done and of the average standard of the coins is drawn up chiefly from my monthly reports:

I.—GOLD INGOTS RECEIVED FOR COINAGE.

From the public, premelted in the mint	507
From the mint refinery	73
From American refineries	76
Gold melted in England—900 standard	292
Total	948

Twenty-nine of the premelted ingots were found to be of too low standard, and were therefore rejected. On several occasions the reports accompanying American ingots disagreed slightly with mine; this was

especially the case in one importation, where the mean overestimation of the standard was as much as 0.8 per mil. I may add that the assay of the bars and coins made from these ingots confirmed my results. The trade reports accompanying the English gold were in many cases overcalled.

II.—DIP ASSAYS FROM POTS.

Gold	536
Silver	3,357

Of the gold-pots only eight were stopped. Four from errors in weighing in the alloy, in three cases from the alloy not being sufficiently mixed. In the remaining case the standard had been raised slightly by continued fluxing to remove brittleness.

As regards the silver-pots, the work is much lightened by the accuracy with which the premelting ingots are assayed.

III.—ASSAYS FROM INDIVIDUAL COINS.

Gold, (5, 2, and 1 yen pieces)	321
Subsidiary silver, (50, 20, 10, and 5 sen pieces)	938
Silver yen	386

The coins selected daily are melted into ingots at the end of each week.

AVERAGE STANDARD OF INGOTS FROM COINS.

Gold, (1,373 pieces melted)	899.96 parts of gold per mil.
Subsidiary silver, (8,506 pieces melted)	799.41 parts of silver per mil.
Silver yen, (1,150 pieces melted)	900.48 parts of silver per mil.

AVERAGE STANDARD OF COINS, CALCULATED FROM INDIVIDUAL ASSAYS.

Gold, 5 yen	899.98 parts of gold per mil.
Gold, 2 yen	899.94 parts of gold per mil.
Gold, 1 yen	900.01 parts of gold per mil.
Subsidiary silver, 50 sen	799.57 parts of silver per mil.
Subsidiary silver, 20 sen	799.91 parts of silver per mil.
Subsidiary silver, 10 sen	799.84 parts of silver per mil.
Subsidiary silver, 5 sen	799.88 parts of silver per mil.
Silver yen	900.34 parts of silver per mil.

In the case of the two most important coins it may be mentioned that 94 per cent. of the 5-yen pieces assayed were between 899.7 and 900.3, and 90 per cent. of the silver yen between 899.7 and 901. It has been especially an object to prevent any of the latter coins falling below 900.

Altogether, including checks and repetitions, about 4,100 assays of gold and 10,750 assays of silver have been made during the year.

I find the separation of a silver alloy in cooling, causing the outside of a bar and still more of a rolled strip to be of lower standard than the middle, to be much more marked in the case of a 900 than of an 800 standard. To ascertain the amount of this, I made assays in different parts of some cross-sections taken from silver-yen strips two inches wide, with this result:

Mean of assays of center	900.4
Mean of assays of edge	897.6

This shows that there is an average divergence of 2.8 per mil. between different parts of the same strip. Since only a single row of blanks is cut from this strip, it is easy to see that the scissel will be of lower standard than the average of the original bar. In fact, I have found the scissel when remelted to average about 0.7 per mil. lower than the original ingot-pots, and it has therefore been necessary to add from 0.5 to 1.0 per mil. of silver to the scissel-pots to bring them up to the normal standard.

I have very rarely detected iridium during the assay of the fine gold received for coinage, and never in the coins themselves. In the assay of sweep ingots from the melting-room, however, it is invariably present in the cornet in such large quantities as to invalidate the accuracy of the assay. I have a piece of gold from the bottom of a pot where the iridium alloy is scattered through the metal in steel-colored crystalline grains of great hardness. As the arrangements of the refinery do not allow of the treatment I proposed for separating the iridium, my only plan has been to distribute the gold of the sweep ingots among several pots, when the iridium appears to alloy with the excess of gold; at least I have never succeeded in detecting any in the resulting bars or coins.

During the course of the year the gold and silver has been determined in a large number of old Japanese coins. Except in the case of the obans, in each instance a considerable number were melted into an ingot, from which the assay was taken.

It will be seen that in many cases the so-called gold coins contain a very small quantity of that metal. The silver, which is practically the only alloy, was removed from the surface, leaving a tolerably thick coating of pure gold. This, I understand, was brought about by a pickling process, the coins being heated in a liquid, of the consistency of mud, composed of sulphate of copper and saltpeter mixed with vinegar made from plum-juice. Perhaps the most noticeable point is the great variation in standard, and therefore in intrinsic value, among coins identical in appearance. This is partly owing to the frequent recoinages, often accompanied by a debasement of the standard, but without any alteration of the design. Sometimes, however, these successive recoinages may be distinguished by private marks.

The following examples have been selected from among 56 different kinds of coins that have been assayed:

Current value.	Names when ascertained.	Weight in ounces.	Gold per mil.	Silver per mil.
10 riyos	Kioho oban	5.31	672.5	313.0
Do	Shin oban	3.61	349.0	649.0
5 riyos	Tempo goriyoban	1.09	842.0	157.0
1 riyo	Koicho koban	0.571	862.0	137.0
Do	Shimbunji koban	0.417	654.9	344.0
Do	Genrok koban	0.573	564.0	432.0
Do	Seiji koban	0.289	555.0	442.0
Do	Shin koban	0.107	574.7	423.0
2 bus, (gold)	Shimbunji nibuban	0.211	563.2	434.0
Do	Sobunji nibuban	0.211	461.5	538.0
Do	Ansei nibuban	0.181	208.1	791.0
Do	Tokugawa fuki nibuban	0.096	228.0	769.0
Do	Quaheshi fuki nibuban	0.097	223.4	774.0
1 bu, (gold)	Keicho ichibuban	0.143	861.5	134.0
Do	Koshiu ichibuban	0.119	725.5	268.0
Do	Tempo ichibuban	0.091	567.5	431.5
Do	Seiji ichibuban	0.073	570.0	429.5
1 bu, (silver)	Old ichibugin	0.279	2.2	991.5
Do	Tokugawa ichibugin	0.279	1.1	895.0
Do	Quaheshi ichibugin	0.278	1.3	860.5
2 shus, (gold)	Genrok nishukin	0.072	563.0	432.0
Do	New nishukin	0.024	229.0	769.8
2 shus, (silver)	New nishugin	0.428	0.6	844.0
Do	Mewa "nan riyo"	0.328	2.0	975.5
1 shu, (gold)	Isshukin	0.045	123.1	874.0
1 shu, (silver)	Isshugin, (1)	0.061	3.0	987.9
Do	Isshugin, (2)	0.061	1.3	905.7
Do	Mewa "nan riyo"	0.084	2.6	972.7

The results of the assay at the London mint, of the pyx coins of last year sent to England, will be found in the appendix of the director's report.

E. DILLON, B. A.,
Assayer, Imperial Mint.

AUGUST, 1874.

Memorandum by Mr. Hunter, assayer, silver premelting department, imperial mint.

The review of the work which has passed through this department during the last twelve months, offers few features calling for special notice, beyond a general summary of the amount of work done.

Of silver premelting in the mint during the period, the figures give a total of 2,700 ingots. Of these, 2,100 were passed into work as fit for coinage, while 600 were rejected, as found to contain a quantity of gold in excess of the limit of six grains to the pound. There is, however, a marked improvement to be noticed in this respect. Native importers of silver bullion were either ignorant that silver might contain small quantities of gold, or they disregarded this value on account of the cost of extraction; but their attention having been repeatedly drawn to these small values of gold, there has been a marked decrease each year of "doré" silver sent for coinage. This result, which has lessened the premelting work, has no doubt been greatly facilitated by the reduced cost at which acid for refinery purposes can now be obtained.

The absence of gold in silver is also a point of some importance in assaying by the dry method, where the presence of small quantities of gold would interfere with the accuracy of the assay by being estimated as silver.

Of "parting bullion" sent in for valuation the figures show an aggregate of about 500 ingots, which is a large falling off in this description of bullion as compared with the previous year.

The decrease in this bullion, which for the most part consists of melted coins of the former Japanese currency, would point to the conclusion that the conversion of the old coinage into the new standard has now been nearly accomplished.

GEO. W. HUNTER,
Assayer.

AUGUST, 1874.

Memorandum by Mr. Gowland, chemist and metallurgist, imperial mint.

COPPER REFINERY.

In the copper refinery during the year, 422¾ tons of Japanese copper have been refined, some account of the distinctive characters of which will be found below.

The furnace, stack, and appliances are in a thoroughly efficient condition.

MELTING-ROOM.

In the melting-room 13,519,764.94 oz. troy of bars for coinage (consisting of copper 98 parts, zinc 1 part, tin 1 part) have been produced.

The mean loss of zinc and tin for the year in the preparation of the alloy is 60 per cent. of the weight of the metal melted, the maximum being .88 per cent. and the minimum .47 per cent. The amount of this loss is determined daily, and the above mean is the mean of the daily losses. Such being the case, and the amount of the zinc and tin added to replace this loss being .75 per cent. of the weight of the metal melted, it follows that the average composition of the bars for the year approaches almost exactly to that required by theory, the small and advisable deficiency of copper in the bars amounting only to .15 per cent.

CHEMICAL AND METALLURGICAL LABORATORY.

In the chemical and metallurgical laboratory a large amount of analytical work of the most varied character has been performed, comprising more especially analyses and examinations of copper, alloys, gold, silver, waters, and clays.

JAPANESE COPPER.

I have made analyses of thirty-eight different samples of Japanese copper, chiefly that in rectangular plates. A summary of the results may be briefly stated as follows:

Sulphur, silver, lead, and iron were present in small and varying proportions in every case; in one specimen, however, as will be seen from an accompanying analysis, an extraordinary and abnormal quantity of lead existed. The whole of the samples were remarkably free from the specially injurious metals antimony and arsenic, antimony being present in only one specimen, and then only in faint traces, while the maximum amount of arsenic only reached .057 per cent., and in thirty-one cases it was either absent altogether or the merest traces only were found.

The rectangular cake copper often contains an excess of cuprous oxide.

The following analysis of a crude copper from Washiu may be taken as fairly representing the average composition of good qualities of Japanese crude copper:

Copper	98.940
Lead	trace
Sulphur	.947
Iron	.101
Silver	trace
Arsenic	trace
Antimony	absent
	99.988

Its composition is thus analogous to that of the purest kinds of unrefined copper of commerce. Silver is often present in more than traces, many of the ores being argentiferous; the greater proportion of this metal is removed, however, by a crude method of liquation with lead.

The copper of Japan, when properly selected and refined, should be of high value for electro-telegraphic purposes, where freedom from arsenic and antimony is especially required, these metals when present reducing the electro-conductivity to a serious extent.

While, as a rule, Japanese copper is exceedingly free from the presence of injurious metals, yet occasionally a sample of low value is met with, and this necessitates the performance of frequent analyses.

The following analysis of so-called "copper" from Hishiu is interesting:

Copper	58.872
Lead	39.283
Silver	.185
Iron	.083
Sulphur	1.635
Arsenic	faint trace
Antimony	absent
	100.058

It is possible that this large proportion of lead may have some connection with the high percentage of silver present and the native liquation process.

PLUMBAGO.

I have examined two samples of this substance from Satsuma, of excellent quality. One contained 88.09 per cent. carbon and 11.01 per cent. of a pale gray ash. The other sample contained 10.78 per cent. of similar ash.

GOLD.

An ingot of so-called "native" gold, very impure, was received into this department for examination and treatment. It was of a dull dirty greenish-yellow color, excessively brittle, and with a fracture almost earthy of the color of that of Muntz's metal. It consisted of—

Gold	78.50
Silver	12.25
Lead	8.05

Containing, besides copper with smaller quantities of arsenic, antimony and iron.

The gold and silver were successfully obtained from it in a state suitable for coinage by treatment with chlorine according to Miller's process.

SULPHURIC ACID.

At the request of the director I have examined the commercial sulphuric acid, manufactured at the works of the imperial mint, with the following results.

The sample analyzed, representing the contents of eighty-three different bottles, was colorless, and free from suspended matter:

Specific gravity at 60° F	1.839
Real sulphuric acid ($S O_3$) determined by acidemetry	79.50 per cent.
Sulphate of lead	.014 per cent.
Residue after ignition	.041 per cent.
Arsenic	faint trace
Chlorine	faint trace
Oxides of nitrogen and nitric acid	nil

From these results it will be seen that the acid is of high specific gravity and strength, free from excess of sulphate of lead, and remarkably so from other impurities.

The lower oxides of nitrogen and nitric acid—the presence of which is especially to be avoided—are entirely absent.

I have therefore to report that I consider this sulphuric acid to be suitable for any purpose for which commercial sulphuric acid may be required.

W. GOWLAND,
Associate Royal School of Mines, Chemist and Metallurgist.

Commissioner's staff.

The following officials, &c., comprise the staff of the commissioner's or bullion and accountant's department for the year 1873–'74:

Mr. K. S. Endo, commissioner.
Mr. H. S. Hasegawa, assistant commissioner.
Mr. N. Ohno, superintendent of bullion-office.
Mr. T. Hasegawa, accountant, assay-department.
Mr. S. Mishima, accountant, bullion-office.
Mr. T. Hafto, accountant, stores-department.
Mr. H. Oka, accountant, rolling-department.

Mr. N. Kato, accountant, coining-department.
Mr. T. Y. Yajima, accountant, weighing-department.
Mr. Sakakura, accountant, silver-melting department.
Mr. K. Awoki, accountant, gold-melting department.
Mr. S. Mori, accountant, annealing-department.
Mr. T. Adatchi, chief accountant, copper-department.

There are also three foreign officials, viz:

Mr. V. E. Braga, accountant and book-keeper of bullion-office.

Mr. Louis Swaby, assistant accountant and book-keeper of bullion-office.

Mr. C. J. Braga, accountant and book-keeper copper-department.

There are 108 subofficials, workmen, servants, &c., in addition to the foregoing list.

VALUATION OF FOREIGN GOLD AND SILVER COINS.

Relative approximate value of foreign gold coins, in gold yen, from which mint charges a 1 per cent. have to be deducted, and in some cases premelting and refining fees.

Country.	Denomination.	Weight, grains troy.	Fineness in thousandths.	Value in gold yen.
Austria	Ducat	53.85	986	2.29
Do	Souverain	174.87	900	6.70
Do	4 florins	49.92	900	1.94
Belgium	25 franks	122.14	900	4.74
Do	20 franks	99.50	900	3.86
Bolivia	Doubloon	416.50	870	15.65
Brazil	20 milreis	276.70	916.66	10.95
Central America	2 escudos	97.00	845	3.54
Do	Peso	24.00	900	0.93
Do	4 reals	12.96	875	0.48
Chili	10 pesos	236.16	898	9.14
Colombia and South America generally.	Doubloon	416.66	870	15.64
Denmark	10 thaler	205.00	895	7.72
Do	New 20 crowns	138.24	900	5.37
Egypt	100 piasters	132.00	875	4.98
France	20 francs	99.56	900	3.87
Greece	20 drachms	88.80	900	3.45
Great Britain	Sovereign	123.27	916.66	4.88
Do	½ sovereign	61.63	916.66	2.44
Germany	20 marks	122.92	900	4.77
Do	10 marks	61.46	900	2.38
Do	10 thalers	206.22	902	8.03
Italy	20 lire	99.56	900	3.87
India	Mohur, (15 rupees)	180.00	916.5	7.12
Mexico	Old doubloon	416.16	870	15.64
Do	20 peso, (Max.)	521.00	875	19.69
Do	20 peso, (Republic)	519.00	873	19.57
Do	New doubloon	417.70	870.5	15.70
Netherlands	10 guilders	103.82	900	4.03
Do	5 guilders	51.91	900	2.01
Naples	40 lire	199.12	900	7.74
Do	20 lire	99.56	900	3.87
Do	6 ducati	116.86	996	5.03
New Granada	Doubloon	416.50	870	15.65
Do	New doubloon	416.50	858	15.43
Do	10 peso	252.00	891.5	9.70
Peru	Doubloon	416.50	870	15.65
Do	20 sols	506.40	898	19.64
Portugal	Coroa	147.84	912	5.82
Russia	5 roubles	101.00	916.66	3.99
Spain	100 reals	129.43	900	5.03
Do	80 reals	103.20	869.5	3.87
Do	10 escudos	129.98	896	5.03
Sweden	Ducat	53.79	975	2.26
Do	Carolin	49.92	900	1.94
Do	New 20 crowns	138.24	900	5.37
Tunis	25 piasters	77.28	900	3.00
Turkey	100 piasters	111.35	916	4.40
United States of America	20 dollars	516.00	900	20.06
	1 dollar	25.80	900	1.00

Relative approximate value of foreign silver coins, in silver yen, of 416 grains.

Country.	Denomination.	Weight, grains troy.	Fineness in thousandths.	Value in silver yen.
Austria	Old rix dollar	432.96	833	0.95
Do	Old scudo, (crown)	401.28	902	0.97
Do	Florin to 1858	216.48	803	0.48
Do	New florin	190.56	900	0.46
Do	New Union dollar	286.08	900	0.69
Do	Maria Theresa dollar, (1870)	429.60	838	0.96
Belgium	5 francs	385.44	897	0.93
Do	2 francs	153.60	835	0.34
Bolivia	New dollar	384.48	900	0.92
Brazil	Double milreis	393.60	918.5	0.96
Canada	20 cents	72.00	925	0.18
Do	25 cents	90.00	925	0.22
Central America	Dollar	415.68	850	0.94
Chili	Old dollar	414.72	908	1.00
Do	New dollar	384.48	900.5	0.92
China	Dollar, (Hongkong)	416.00	900	1.00
Denmark	2 rigsdaler	444.96	877	1.04
Egypt	New piaster	19.20	755	0.04
France	5 francs	384.00	900	0.92
Do	2 francs	153.60	835	0.34
Germany	Thaler, before 1857	341.76	750	0.68
Do	New thaler	285.60	900	0.69
Do	Florin	163.20	900	0.39
German Empire	5 marks, new	385.92	900	0.93
Great Britain	Shilling	87.60	925	0.22
Greece	5 drachms	345.12	900	0.83
Hindostan	Rupee	179.52	916.5	0.44
Italy	5 lire	384.00	900	0.92
Do	Lira	76.80	835	0.17
Mexico	Dollar, (average)	415.68	901	1.00
Do	Maxmilian dollar	413.28	902.5	1.00
Do	Scale dollar	415.68	902.5	1.00
Netherlands	2½ guilders	385.92	944	0.97
Norway	Specie daler	444.96	877	1.04
New Granada	Dollar, (1857)	385.14	896	0.92
Peru	Old dollar	415.68	901	1.00
Do	Dollar, (1858)	367.68	909	0.89
Do	½ dollar	207.84	659	0.36
Do	Sol	384.96	900	0.92
Portugal	500 reis	192.00	912	0.47
Roumania	2 lei, (francs,) new	154.56	835	0.34
Russia	Rouble	320.16	875	0.75
Spain	5 pesetas	384.00	900	0.92
Do	Peseta, (pistareen)	76.80	835	0.17
Sweden	Ricksdaler	131.04	750	0.26
Switzerland	2 francs	153.60	835	0.34
Tunis	5 piasters	245.28	898.5	0.59
Turkey	20 piasters	369.60	850	0.82
United States of America	Old dollar	412.50	900	0.99
	Trade-dollar	420.00	900	1.01
Do	½ dollar	192.90	900	0.46
Do	¼ dollar	96.45	900	0.23
Do	Dime	38.58	900	0.09
Do	½ dime	19.20	900	0.05

The weight and fineness are assumed from reported rates, and not from actual assays.

In the above tables I have freely made use of the valuable information obtained from various countries by the United States Government, published by the Hon. H. R. Linderman in his report for 1872–'73, to whom my sincere thanks and acknowledgments are due.

T. W. KINDER,
Director Imperial Mint, &c.

Dimensions of the mint.

The following statement of the floor area of each division of the mint will convey an idea of the extent of the establishment:

Divisions of the mint.	Superficial feet.
Assay-department	1,638
Melting-rooms, gold, silver, and copper	8,308
Rolling-mills, gold, silver, and copper	10,568
Coining-department	10,355
Annealing-furnaces, &c	5,360
Weighing-department	1,200
Die-department	2,12½
Engines and boiler space	5,150
Copper refinery	2,112
Fitting-shop, foundery, smithy, &c	14,350
Total area of departments	61,165

B 11.

Fourth report of the director of the imperial mint, Osaka, Japan, for the half year ending 31st January, 1875.

To his excellency SANGI OKUMA SHIGENOBU,
Minister of Finance:

YOUR EXCELLENCY: I have the honor to submit the fourth report on the imperial mint, for the information of his Imperial Majesty's government.

Amount of gold of standard fineness imported into the imperial mint during the half-year.

Imported by—	Ounces troy, at .900 standard.	
Japanese	9,845	59
Chinese		
Other foreigners		
Imperial government	6,106	99
Total	15,952	58

Description of gold bullion imported from the public during the half-year.

Description.	Ounces troy.	
Gold bars of unknown fineness	5,918	81
Refined gold bars of unknown fineness	2,989	23
Total	8,908	04

Amount of silver of standard fineness imported during the half-year.

Imported by—	Ounces troy, at .900 standard.	
Japanese	174,503	13
Chinese		
Other foreigners		
Imperial government	291,469	08
Total	465,972	21

Description of silver bullion imported from the public during the half-year.

Description.	Ounces troy.	
Silver bars of unknown fineness	169,897	29

I shall be fully prepared at the appointed time, on or about the 31st January, to transfer all matters connected with my office as director of the imperial mint, in accordance with the instructions of the government conveyed to the Oriental Bank Corporation.

The annual vacation was observed from the 1st of October to the 15th November. During that time, the whole of the machinery, furnaces, and working plant was put in thorough repair.

The weighing arrangements referred to in my last report have been perfected by placing the automaton balances on a bed of concrete, covered by iron plates, and the vibration from the wooden floor, which was before an obstacle to accurate weighing, has been entirely prevented, resulting in greater regularity in the weight of the coins.

The new barracks for one hundred soldiers, which have been erected from my designs and plans, approach completion, and I leave with the officials of the building department working-drawings for the new entrance and gate-house, which will at once be erected.

A larger gas main through the entire length of the premises is now being laid, to meet the increasing demand for gas.

The following coins have been struck and passed for issue by the director, as shown by the bullion-office returns:

Denomination.	Number.	Value.
Gold 20-yen	None.	None.
Gold 10-yen	None.	None.
Gold 5-yen	95,825	479,125
Gold 2-yen	None.	None.
Gold 1-yen	None.	None.
Total	95,825	479,125
Silver 1-yen	243,735	243,735
Silver 50 sen		
Silver 20 sen	1,263,800	252,760
Silver 10-sen	730,769	73,077
Silver 5-sen	2,793,144	139,657
Total	5,031,448	709,229
Copper 2-sen	2,154,978	43,099
Copper 1-sen	12,998,038	129,980
Copper ½-sen	7,745,544	38,727
Copper ½ sen	2,719,660	2,719
Total	25,618,220	214,525
Grand total	30,745,493	1,402,879

The total number of pieces passed for issue was 30,745,493, and the real or nominal value $1,402,879.

The falling off in the coinage of gold is very decided.

The coinage of silver has been almost entirely confined to the smaller subsidiary pieces, the quantity of silver yen being merely nominal. This latter coin has been declared a legal tender at Singapore, Canton, and Foochow, and at these ports it now passes at par with the Mexican dollar.

Copper coins of all denominations have been produced in large quantities, the daily out-turn being now about two tons.

The following is a list of the European officials in the director's department whose agreements have terminated:

Mr. G. W. Hunter, assayer of premelted silver, &c.
Mr. Edward Atkin, superintendent of gold and silver melting.
Mr. Herbert Wheeler, director's secretary.
Mr. Henry Sheard, die engraver.
Mr. Edward Wyon, foreman, coining-department.
Mr. Robert Smith, foreman, copper-rolling mill, &c.
Mr. R. Finch, foreman, sulphuric-acid works.

I embrace this opportunity (the last I shall have) to thank all who have been associated with me in the mint for their able and valuable assistance. In every detail the mint is now in the most perfect order, and will be left by me in that state.

I have the honor to be, your excellency's most obedient servant,

T. W. KINDER,
Director of the Imperial Mint,
Master of Her Majesty's late Mint, Hong-Kong.

OSAKA, JAPAN, 28*th January*, 1875.

APPENDIX.

Account of all gold, silver, and copper money coined at the imperial mint during the periods ending on July 31, *in the years* 1871, 1872, 1873, *and* 1874, *and on January* 31, 1875.

GOLD COINAGE.

Date.	20-yen.		10-yen.		5-yen.		2-yen.		1-yen.		Total value.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1871, (none)											
1872	42,845	856,944	863,016	8,630,176	873,949	4,369,756	221,653	443,312	188,793	188,793	14,488,981
1873	3,251	65,019	1,005,917	10,059,169	2,523,810	12,624,057	506,152	1,012,301	1,402,068	1,402,068	25,162,614
1874	None				1,724,158	8,620,801	156,080	438,811	438,811	438,811	9,374,772
1875					95,825	479,125	None				479,125
Total	46,096	921,963	1,868,933	18,689,345	5,217,742	26,093,739	883,885	1,767,773	2,029,672	2,029,672	49,502,492

SILVER COINAGE.

Date.	1-yen.		50-sen.		20-sen.		10-sen.		5-sen.		Total value.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
1871	378,244	378,244	330	165	424,115	84,823	553,270	55,327	265,600	13,280	531,839
1872	3,306,730	3,306,730	3,190,221	1,595,110	1,789,101	357,820	3,572,860	357,285	1,454,810	72,740	5,689,685
1873	None		3,937,909	1,968,952	6,344,426	1,268,883	4,658,132	465,813	5,768,541	288,426	3,992,074
1874	724,107	724,107	850,480	425,241	4,020,159	804,033	11,926,268	1,192,626	7,011,515	350,577	3,496,584
1875	243,735	243,735			1,263,800	252,760	730,769	73,077	2,793,144	139,657	709,229
Total	4,652,816	4,652,816	7,978,940	3,989,468	13,841,601	2,768,319	21,441,299	2,144,128	17,293,610	864,680	14,419,411

COPPER COINAGE.

Date.	2-sen.		1-sen.		½-sen.		1-rin.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
1874	2,334,551	46,691	17,951,806	179,518	10,844,740	54,223	4,881,630	4,882	36,012,727	285,314
1875	2,154,978	43,099	12,998,038	129,980	7,745,544	38,727	2,719,660	2,719	25,618,220	214,527
Total	4,489,529	89,790	30,949,844	309,498	18,590,284	92,950	7,601,290	7,601	61,630,947	499,841

Total number and value of coins produced from the commencement to January 31, 1875: Number of pieces, 136,885,541; value, in yen, 64,421,744.

Assay, &c., of trial pieces for the coins struck during the half-year ending 3st January, 1875.

On the 29th January, 1875, by order of His Excellency Sangi Okuma Shigenobu, minister of finance, Mr. Ishimal, the commissioner, and other officers of the imperial service, assembled at the mint for the purpose of testing the coinage of the past half-year.

The commissioners selected indiscriminately from the pyx pieces collected daily, a certain number of coins, which were then accurately weighed, with the following results:

No.	Denomination.	Date of coinage.	Weight in grains.	Standard weight.	Deviation allowed.
				Grains.	*Grains.*
1	5-yen	Aug. 4, 1874	128.7	128.6	0.5
2	5-yen	Sept. 15, 1874	128.7	128.6	0.5
3	5-yen	Jan. 11, 1875	128.4	128.6	0.5
4	1 silver yen	Aug. 28, 1874	417.2	416.0	1.5

Indiscriminate selections of each description of coin from the various packets were then weighed:

Denomination.	Weight of 1,000 pieces.	Standard weight of 1,000 pieces.	Deviation allowed on 1,000 pieces.
	Ounces.	*Ounces.*	*Ounces.*
5-yen	267.91	267.91	0.015
1 silver yen	867.00	866.66	3.28
50-sen	None	None	
20-sen	173.28	173 33	0.1
10-sen	86.66	86.66	0.05
5-sen	43.33	43.33	0.05

The copper coins were tested as to weight, with the following results:

Denomination.	Actual number of pieces in the pound avoirdupois.	Number of pieces allowed by regulation.
2-sen *	31¼	31¼
1-sen	63½	63½
½-sen	128	127
1-rin	512	500

* All subsidiary and copper coins are pounded.

Assays were made by Mr. Dillon of the following coins:

GOLD.

No. 1.—5-yen.....900.3 parts of gold in 1,000
No. 2.—5-yen.....900.0 parts of gold in 1,000
No. 3.—5-yen.....899.8 parts of gold in 1,000

SILVER.

No. 4.—1-yen.....900.0 parts of silver in 1,000

Standard of the above, $\frac{900}{1000}$ths, with a remedy or permitted deviation of two parts in each direction.

As on former occasions, the whole of the remaining pyx pieces were melted into ingots; pieces from each ingot have been also assayed by Mr. Dillon, with the following results:

GOLD.

No. 5.—5-yen.....900.0 parts of gold in 1,000

SILVER.

No. 6.—1-yen silver.....900.0 parts of silver in 1,000

SUBSIDIARY SILVER.

No. 7.—Bar cast from 20 sen.....799.6 parts of silver in 1,000
No. 8.—Bar cast from 10 sen.....799.0 parts of silver in 1,000
No. 9.—Bar cast from 5 sen.....800.5 parts of silver in 1,000

Fineness $\frac{800}{1000}$ths, with remedy of two parts.

T. W. KINDER,
Director of the Imperial Mint,
Master of Her Majesty's late Mint, Hong-Kong.

Letter from Hon. Charles W. Freemantle, master of the royal mint, London, with the reports on assays of coins, &c., of 1873–'74.

ROYAL MINT, LONDON, *2d December*, 1874.

SIR: I have the honor to submit to you herewith a statement showing the result of the assays made in this department on the gold and silver pyx coins and ingots of the imperial Japanese mint for the year ending 31st July, 1874, which have been forwarded to me by direction of the lords commissioners of Her Majesty's treasury.

The result of the examination has again been in every case satisfactory, and I have, in accordance with your request, furnished to the Oriental Bank Corporation a statement of the mint charge for making these assays, amounting to £2 7*s.* 6*d.*

I have the honor to be, sir, your obedient servant,

C. W. FREMANTLE.

Major KINDER, *Osaka.*

Assay-reports on portions of "pyx coins" and pieces from "test-ingots" sent from the imperial mint of Japan.

No.	Denomination.	Japanese mint assay.	Royal mint assay.
	GOLD.		
1	1-yen coin	899.9	899.6
2	1-yen coin	899.9	899.6
3	2-yen coin	900.0	899.8
4	2-yen coin	900.1	900.0
5	5-yen coin	900.0	900.0
6	5-yen coin	899.8	899.9
7	5-yen coin	899.8	899.8
8	5-yen coin	899.6	899.8
9	5-yen coin	899.9	899.8
12	1-yen bar	899.9	899.7
13	2-yen bar	900.0	899.9
14	5-yen bar	899.9	899.8
	Mean	899.90	899.81
	SILVER.		
10	1-yen coin	900.8	901.1
11	1-yen coin	900.2	900.7
15	1-yen dip-assay	900.1	900.5
	Mean	900.37	900.77
16	50-sen dip-assay	799.7	800.0
17	20-sen dip-assay	799.6	799.7
18	10-sen dip-assay	799.8	799.7
19	5-sen dip-assay	799.8	799.9
	Mean	799.72	799.82

W. CHANDLER ROBERTS,
Chemist and Assayer of the Mint.

ROYAL MINT, *1st December*, 1874.

B 12.

First report of the commissioner of the imperial mint, Osaka, Japan, for the half-year ending 30th of 6th month of 8th year of Meiji.

YOUR EXCELLENCY: The undersigned, the commissioner of the imperial mint, has the honor to submit to your excellency's perusal this first report of the commissioner on the imperial mint for the half-year ending 30th of 6th month, to follow the fourth report of the director, for the information of His Majesty's government.

Amount of gold of standard fineness imported into the imperial mint during the half-year.

Imported by—	Ounces troy, at .900 standard.	
Japanese	762	85
Chinese	None	
Other foreigners	None	
Imperial government	43,077	81
Total	43,840	66

Description of gold bullion imported from the public during the half-year.

Description.	Ounces troy.	
Gold bars of known fineness	4,109	95
Refined gold bars of unknown fineness	36,170	65
Total	40,280	60

Amount of silver of standard fineness imported during the half-year.

Imported by—	Ounces troy, at .900 standard.	
Japanese	99,842	64
Chinese	3,896	22
Other foreigners	None	
Imperial government	368,300	17
Total	472,039	03

Description of silver bullion imported from the public during the half-year.

Description.	Ounces troy.	
Silver bars of unknown fineness	163,321	49
Refined silver bars of unknown fineness	266,210	05
Chinese sycee	3,570	95
Total	433,102	49

The following coins have been struck and passed for issue:

Denominations.	Number.	Value.
Gold 20-yen		
Gold 10-yen		
Gold 5-yen	158,891	$794,455 00
Gold 2-yen		
Gold 1-yen		
	158,891	794,455 00
Silver 1-yen	115,449	115,449 00
Silver trade-dollar	38,360	38,360 00
Silver 50-sen	60	30 00
Silver 20-sen	225,455	45,091 00
Silver 10-sen	2,825,356	282,535 60
Silver 5-sen	2,802,540	140,127 00
	6,007,220	621,592 60
Copper 2-sen	14,398,875	287,977 50
Copper 1-sen	14,718,179	147,181 79
Copper ½-sen	8,139,104	40,695 52
Copper 1-rin	2,815,330	2,815 33
	40,071,488	478,670 14
Grand total	46,237,599	1,894,717 74

The agreement between the imperial government and the Oriental Bank Corporation having expired on 31st day of 1st month of this year, the latter have ceased to act as agents of the government with regard to matters relating to the imperial mint. The corporation had been connected with the imperial mint for five years, and during that interval they have always transacted the matters accredited to them to the satisfaction of the government, and they therefore deserve the highest praise.

Major Kinder, the ex-director of the imperial mint, having completed the period of his services to the government at the expiration of the agreement above referred to, has left this country for England during the 2d month of the present year. While being in the service he has ceaselessly and indefatigably exerted himself in his office of director, so that the progress at present attained by the mint results principally from his labors, for which the undersigned, on behalf of the imperial government, must express the acknowledgments due. Previous to his leaving this country, on the 14th day of the 2d month this year, he has been presented to His Majesty the Tenno, who addressed him as follows:

[Official translation.]

"THOMAS WILLIAM KINDER,

"*Late Director of the Imperial Mint, Osaka, Japan:*

"From the opening of our imperial mint at Osaka to the present time you have been engaged in the arduous and responsible duties incumbent on you as director of that establishment, such as the coining of money, the formation of the various departments and other works, &c. The success which has been the result thereof is entirely due to your efforts and industry.

"We therefore desire to express our great satisfaction for the same, and as you are now about to return to your own country, we wish you a prosperous voyage and every success in the future."

The services of the following European officials have also terminated simultaneously with those of Major Kinder:

Mr. G. W. Hunter, assayer of premelted silver, &c.

Mr. Edwin Atkin, superintendent of gold and silver melting.
Mr. Herbert Wheeler, director's secretary.
Mr. Henry Sheard, die-engraver.
Mr. Edward Wyon, foreman coining-department.
Mr. Robert Smith, foreman copper-rolling mill, &c.
Mr. R. Finch, foreman sulphuric acid works.

Besides the above, Mr. V. E. Braga, the accountant and book-keeper, has been ordered by your excellency to Tokio, and the services of Messrs. C. J. Braga and Louis Swaby, the assistant accountants and book-keepers, have also terminated at the same time with those of the other European officials above mentioned.

Mr. Edward Dillon, B. A., assayer and superintendent of melting department.

Mr. William Gowland, assoc. R. S. M., chemist and metallurgist.

The above two officials have, since the 2d month this year, been appointed "technical advisers" to the commissioner, with your excellency's authorization, and are chiefly intrusted with the control of the actual operations of minting.

Mr. Robert Maclagan, engineer.
Mr. Thomas Howlett, coiner.
Mr. Charles Nicola Mancini, roller.

The above three officials have also, since the second month, been appointed in the similar manner to their respective offices.

Although the coinage of gold has been confined to five-yen pieces, there was an increase in amount compared with that of the last half year. The coinage of silver has principally been restricted to small subsidiary coins.

According to the government notification of the 28th of the second month this year, the silver coin for the purpose of trade, and designated the "trade dollar," has been coined since of 420 grains weight, with a permitted deviation for weight of 1 grain in each direction (the standard of fineness and its legal remedy being the same as in the case of the silver yen,) and the silver yen entirely ceased to be coined.

The average amount in value of copper coins produced ranged originally from fifty to sixty or seventy thousand yen per month, but, on account of the pressing demand by the government for copper coins, not only have the working hours of the copper department been increased, but certain departments have for a time been working during night, and the result has been the production of an average amount of one hundred thousand yen in value per month.

All the working-dies for gold and silver coins that have been in use while the ex-director held his office, and for which he is responsible, have been locked in a box and not used since, according to an understanding arrived at between the ex-director and the undersigned, previous to the former leaving this country, and the line of demarkation has been clearly drawn on the gold and silver coins struck since the second month of this year, by the fact that the new dies, and therefore coins bear in Japanese characters the words 8th year of Meiji on them.

In obedience to a government decree, the war-medals are being struck at the mint, numbering in all 3,677 pieces, and it is said they are intended to be given to those who served in the Formosan expedition last year.

As the experience since the first publication of the regulations rendered some additions and modifications desirable, the improved and modified regulations were made known by notification No. 62, dated 20th day of 4th month of this year.* Previous to this some improve-

* See Appendix, p. 359.

ments have been introduced, by your excellency's special order, both in the management of the mint and the regulations of the annual assay.

After the tables of the relative value of old and new coins—the result of a great number of analyses and examinations at the mint—have been published during the 9th month of last year, old coins are reported to be gradually issuing out from the hoard, to the great benefit of the entire public.

The erection of the new barracks having been completed on the 15th of the 5th month, the infantry now occupy them, and the old barracks have been removed.

The number of officials, subofficials, and men at present employed at the mint is as follows:

Officials	151	
Subofficials		
Coin-selectors		
Workmen	347	
Servants		
Total		498

Every Tuesday has been kept as an ordinary visiting day of the mint, and the number of visitors from the 2d month to the 6th month was in all 11,441, and, besides the above, visitors on extraordinary days were:

Japanese	450
Foreigners	153
Total	603

The above accounts principally refer to the mint proper, and a brief sketch of the two departments, the refinery and the sulphuric-acid works, will now be given.

The amount of bullion refined during five months, from the 2d to the 6th month, was as follows:

Imported by—	Pure gold, ounces troy.	Pure silver, ounces troy.	Total, ounces troy.
Imperial government	35,323.21	247,210.96	282,534.17
Japanse	530.10	93.82	623.92
Total	35,853.31	247,304.78	283,158.09

Amount of sulphate of copper produced during the five months was:

Sulphate of copper	kin..	33,900

Amount sold:

Sulphate of copper	kin..	20,700
Average amount sold per month	kin..	4,140

The original arrangements in this department for the refining of gold and silver, as well as concentration and crystallization of the sulphate, having been found inadequate for the amount of work, have since been enlarged.

The workmen in this department having acquired considerable skill in concentrating or otherwise managing sulphuric-acid, the expenses of the works have been largely decreased, and the consequent reduction of its price has brought an increased demand for the acid, as may easily be seen from the following:*

* The analysis of the sulphuric acid will be found in the memorandum of the advisers, p. 346.

	Pounds.
Sulphuric acid sold during twelve months ending 31st of 12th month last year	103,170
Monthly average, therefore	8,597.5
Amount sold during five months ending 30th of the 6th month this year	105,509
Monthly average, therefore	21,101.8
Excess of the monthly average of this year over that of last year	12,504.3

The apparatus for the manufacture of nitric acid being now completely fitted, large quantities of the acid can be produced and supplied to the public.

The "tower condensers," which were in a dangerous condition, have been put in order during the earlier part of this half-year.

Having now completed a general review of the outlines of the work done at the mint during the last five months, it is highly satisfactory for the undersigned to be able to state, in conclusion, that although the services of many European officers have terminated since the important change in the management of the imperial mint which has taken place in the 2d month of this present year, the various operations of the mint have been efficiently and successfully carried on with the diligence of the officials, both foreign and Japanese, and the acquired skill of the workmen.

The review of the various operations in detail will be found in the memorandum of the advisers attached to this report.

I have the honor to be, your excellency's most obedient servant,

T. ISHIMAL,

Commissioner of the Imperial Mint, Osaka.

To his excellency SANGI OKUMA SHIGENOBU,

Minister of Finance.

APPENDIX.

Account of all gold, silver, and copper money coined at the imperial mint from the commencement of the mint up to the 30th of 6th month of Meiji, 8th year.

Description.	Amount coined.			Pyx-piece.		Amount issued.		Calculated weight of coins issued.
	Weight.	Number.	Value.	Weight.	Value.	Weight.	Value.	
Gold 20-yen	49, 401. 94	46, 096	921, 920. 00	41. 76	780. 00	49, 360. 18	921, 140. 00	49, 357. 75
Gold 10-yen	1, 001, 437. 40	1, 868, 860	18, 688, 600. 00	979. 78	18, 280. 00	1, 000, 457. 62	18, 670, 320. 00	1, 000, 417. 98
Gold 5-yen	1, 440, 760. 75	5, 377, 884	26, 889. 420. 00	1, 424. 82	26, 600. 00	1, 439, 335. 93	26, 862, 820. 00	1, 439, 399. 41
Gold 2-yen	94, 723. 46	883, 442	1, 766, 884. 00	20. 14	376. 00	94, 703. 32	1, 766, 508. 00	94, 655. 39
Gold 1-yen	108, 756. 70	2, 029, 514	2, 029, 514. 00	21. 02	393. 00	108, 735. 68	2, 029, 121. 00	108, 727. 67
Total	2, 695, 080. 25	10, 205, 796	50, 296, 338. 00	2, 487. 52	46, 429. 00	2, 692, 592. 73	50, 249, 909. 00	2, 692, 557. 60
Silver 1-yen	4, 132, 640. 63	4, 767, 238	4, 767, 238. 00	744. 86	860. 00	4, 131, 895. 77	4, 766, 378. 00	4, 130, 860. 94
Silver trade-dollar	33, 574. 17	38, 360	38, 360. 00	7. 87	9. 00	33, 566. 30	38, 351. 00	33, 457. 12
Silver 50-sen	3, 288, 258. 06	8, 001, 664	4, 000, 832. 00	1, 630. 04	1, 982. 50	3, 286, 628. 02	3, 998, 849. 50	3, 282, 534. 29
Silver 20-sen	2, 363, 686. 29	14, 099, 325	2, 819, 865. 00	1, 139. 32	1, 360. 60	2, 362, 546. 97	2, 818, 504. 40	2, 364, 270. 90
Silver 10-sen	2, 062, 211. 32	24, 270, 077	2, 427, 007. 70	1, 011. 07	1, 193. 20	2, 061, 200. 25	2, 425, 814. 50	2, 060, 885. 50
Silver 5-sen	856, 553. 68	20, 099, 532	1, 004, 976. 60	423. 18	497. 85	856, 130. 50	1, 004, 478. 75	853, 496. 06
Total	12, 736, 924. 15	71, 276, 196	15, 058, 279. 30	4, 956. 34	5, 903. 15	12, 731, 967. 81	15, 052, 376. 15	12, 725, 604. 81
Copper 2-sen	8, 653, 806. 74	18, 896, 939	377, 938. 78	22. 91	1. 00	8, 653, 783. 83	377, 937. 78	8, 661, 074. 04
Copper 1-sen	10, 223, 988. 87	44, 602, 486	446, 024. 86	80. 15	3. 50	10, 223, 908. 72	446, 021. 36	10, 221, 322. 75
Copper ½-sen	3, 063, 681. 60	26, 676, 160	133, 380. 80	22. 88	1. 00	3, 063, 658. 72	133, 379. 80	3, 056, 620. 36
Copper 1-rin	303, 495. 29	10, 475, 110	10, 475. 11	5. 82	0. 20	303, 489. 47	10, 474. 91	305, 518. 18
Total	22, 244, 972. 50	100, 650, 695	967, 819. 55	131. 76	5. 70	22, 244, 840. 74	967, 813. 85	22, 244, 535. 33
Grand total	37, 676, 976. 90	182, 132, 687	66, 322, 436. 85	7, 575. 62	52, 337. 85	37, 669, 401. 28	66, 270, 099. 00	37, 660, 697. 74

One piece o trade-dollar is assumed in this table as equal to one yen.

Report of the technical advisers of the mint.

SIR: We beg to submit for your information the following report on the various operations of the mint, extending from the 1st day of February to the 30th day of June of the present year.

The coins struck during this period were of the following denominations:

Gold	Five-yen.
Silver, (.900 standard)	One-yen.
Silver, (.900 standard)	Trade-dollar.
Silver, (.800 standard)	Twenty-sen.
Silver, (.800 standard)	Ten-sen.
Silver, (.800 standard)	Five-sen.
Copper	Two-sen.
Copper	One-sen.
Copper	Half-sen.
Copper	One-rin.

An account of the standard weights and numbers of these coins will be found in the following tables:

TABLE I.—*Table showing the weight, number, average weight, and fineness of the gold and silver coins certified to be fit for issue, and delivered from the operative department, during each month.*

Month.	Denomination.	Weight.	Number.	Weight per 1,000 pieces.	Standard weight per 1,000 pieces.	Permitted deviation.	Fineness.		Legal remedy of fineness.
							Average.	Standard.	
		Troy oz.		*Troy oz.*	*Troy oz.*	*Troy oz.*			
February	Gold 5-yen	1,646.84	6,146	267.953	267.916	.075	900.00	900.00	2 per mille.
	Silver. 1-yen	41,450.04	47,759	867.90	866.66	3.125	900.30	900.00	
	Silver. 20-sen	16,909.03	97,540	173.35	173.33	.100	798.96	800.00	
	Silver. 10-sen	16,945.44	195,477	86.68	86.66	.050	800.23	800.00	
	Silver. 5-sen	6,978.99	160,948	43.36	43.33	.050	800.06	800.00	
March	Gold 5-yen	11,087.81	41,385	267.918	267.916	.075	900.00	900.00	
	Silver. 1-yen	40,883.76	47,107	867.89	866.66	3.125	900.35	900.00	
	Silver. 20-sen	1,530.34	8,829	173.33	173.33	.100	800.37	800.00	
	Silver. 10-sen	35,918.09	414,426	86.67	86.66	.050	800.04	800.00	
	Silver. 5-sen	7,757.15	178,943	43.35	43.33	.050	800.10	800.00	
April	Gold 5-yen	6,328.55	23,621	267.916	267.916	.075	900.05	900.00	
	Silver. 1-yen	17,828.95	20,542	867.926	866.66	3.125	900.56	900.00	
	Silver. Trade-dollar	8,896.33	10,161	875.537	875.00	2.083	900.28	900.00	
	Silver. 20-sen	5,829.90	33,639	173.308	173.33	.100	799.80	800.00	
	Silver. 10-sen	51,973.00	599,889	86.638	86.66	.050	799.90	800.00	
	Silver. 5-sen	19,923.51	459,647	43.345	43.33	.050	799.56	800.00	
May	Gold 5-yen	4,645.24	17,338	267.922	267.916	.075	900.25	900.00	
	Silver. Trade-dollar	11,472.98	13,108	875.26	875.00	2.083	900.08	900.00	
	Silver. 10-sen	36,209.08	417,783	86.67	86.66	.050	799.96	800.00	
	Silver. 5-sen	50,551.18	1,166,442	43.338	43.33	.050	800.17	800.00	
June	Gold 5-yen	18,742.08	69,952	267.927	267.916	.075	900.11	900.00	
	Silver. Trade-dollar	13,204.86	15,091	875.01	875.00	2.083	900.34	900.00	
	Silver. 20-sen	14,695.37	84,801	173.292	173.33	.100	800.46	800.00	
	Silver. 10-sen	103,405.66	1,193,142	86.666	86.66	.050	800.35	800.00	
	Silver. 5-sen	36,143.23	834,056	43.334	43.33	.050	800.26	800.00	

TABLE II.—*An account of the gold and silver coins produced from February 1 to June 30, 1875, being a summary of Table I.*

Denomination.	Weight.	Number.	Weight per 1,000 pieces.	Standard weight per 1,000 pieces.	Permitted deviation.	Average weight per piece.	Standard weight per piece.	Permitted deviation.	Average fineness.	Standard fineness.	Legal remedy of fineness.
	Troy ounces.		*Troy ounces.*	*Troy ounces.*	*Troy ounces.*	*Grains.*	*Grains.*	*Grains.*			
Gold 20-yen											
Gold 10-yen											
Gold 5-yen	42,450.52	158,442	267,924	267.916	.075	128.604	128.600	.50	900.08	900.00	2 per mille.
Gold 2-yen											
Gold 1-yen											
Silver 1-yen	100,162.75	115,408	867.90	866.66	3.125	416.59	416.00	1.5	900.40	900.00	2 per mille.
Silver trade-dollar	33,574.17	38,360	875.24	875.00	2 083	420.11	420.00	1.0	900.23	900.00	Do.
Silver 50-sen											
Silver 20-sen	38,964.64	224,809	173.32	173.33	.100				800.15	800.00	2 per mille.
Silver 10-sen	244,451.27	2,820,717	86.66	86.66	.050				800.10	800.00	Do.
Silver 5-sen	121,354.06	2,800,036	43 34	43.33	.050				800.03	800.00	Do.

The slight differences between the figures in this table and those given in the body of the commissioner's report arise from the latter tables containing some pyx pieces of the previous year, whilst the pyx pieces of the present year are necessarily not included in it.

TABLE III.—*An account of the copper coins produced from February 1 to June 30, 1875.*

Denomination.	Weight.	Number.	Number of coins in one pound avoirdupois.	Standard number of coins in one pound avoirdupois.	Actual deviation in grains per pound.	Permitted deviation in grains per pound.
	Troy ounces.					
Copper 2-sen	6,596,104.10	14,398,875	31.83	31.81	3.56	24
Copper 1-sen	3,371,315.20	14,718,179	63.66	63.63	3.35	24
Copper ½-sen	933,543.90	8,139,104	127.14	127.27	7.03	24
Copper 1-rin	81,789.70	2,815,330	501.98	509.00	27.73	24

The results of the trial of the pyx coins selected from each delivery, held on the 29th day of June, 1875, will be found in the appendix to the commissioner's report, together with a letter from the deputy master of the royal mint, London, with the assay-report on the gold and silver pyx coins and ingots for the half year ending January 31, 1875.

The work done in the assay-office may be conveniently classed under four heads, corresponding to the different stages at which the bullion is examined during its conversion into coin.

I. *Parting assays to determine the gold and silver in the bullion before refining.*—Assays have been made of 119 samples. This metal is nearly all derived from the old coinage and contains usually from 250 to 300 per mille of gold.

II. *Assays of ingots "premelted" in the mint and of ingots from the mint refinery.*

Nature of bullion.	Accepted.	Rejected.	Average standard.
Premelted ingots, gold	28	7	992.48
Premelted ingots, silver	164	10	989.94
Refined ingots, gold	40	.....	997.65
Refined ingots, silver	260	.....	990.15

III. *Check assays after alloying.*—A sample of every pot is taken from the melted metal before pouring. Ninety-three such samples of gold and 491 of silver have been assayed.

IV. *Daily assays of coins selected at intervals during the work from the coining-room.*—The average standard of the different denominations of coins struck in each month will be found in a preceding table; the following is a summary of the monthly reports to the commissioner:

Average standard of coins.

Denomination.	Number of assays.	Average standard.
Gold 5-yen	58	900.08
Silver 1-yen	68	900.40
Silver trade-dollar	21	900.23
Silver 20-sen	27	899.15
Silver 10-sen	205	899.10
Silver 5-sen	185	899.03

Assays with corresponding results have been made weekly of bars, cast from a larger number of coins similarly selected. It will thus be understood that sufficient precaution is taken to insure the accurate standard of every coin issued from the mint.

Forty-four samples of copper have been analyzed. Fourteen were free from arsenic, seven contained traces of that metal, and thirteen contained from .03 to .06 per cent. In one case antimony was distinctly present, but in very small quantity. A considerable number of Japanese refractory clays and of bricks made from them have been examined, and an improvement in the fire-resisting properties of the bricks manufactured on the mint-premises has resulted.

When a Japanese clay does not already contain quartz or chalcedony in coarse fragments, the addition of the latter substance (preferably previously calcined) in sufficient quantity increases enormously the refractory power of the bricks made from it.

The large quantities of chalcedony available in Japan will prove of great importance when metallurgical processes are conducted on an extensive scale and fire-resisting materials are sought after, especially as the natural sands hitherto examined are without exception exceedingly fusible and quite unfit alone for use where high temperatures are required.

The quality of the sulphuric acid manufactured at the mint-works is fairly represented by the following analysis of a sample taken in April:

Specific gravity at 62° F	1.843
Lead sulphate—dissolved	.005 %
Lead sulphate—suspended	Trace
Residue after ignition	.025 %
Chlorine and chlorides	Trace
Oxides of nitrogen and nitric acid	Nil
Arsenic	Trace

One hundred and twenty-three thousand six hundred and forty-one and fifty-one hundredths ounces of gold, 1,287,730.68 ounces of silver, have been melted since the 1st day of February. The following table shows the amount melted and loss per mille for the different classes of metal:

Description.	Ounces, troy.	Loss per mille.
GOLD.		
Premelted into ingots	4,109.95	.567
Melted into bars for coinage	119,531.56	.333
SILVER.		
Premelted into ingots	166,892.44	3.449
Melted into bars for coinage—.800 standard	727,667.07	1.053
.900 standard	393,171.17	1.021

With regard to the metal melted into bars, in each case the loss has been calculated after making allowance for the impure nature of the metal reclaimed in washing the ashes, this being previously melted and its standard value estimated by assay. The loss in melting gold into bars appears large compared with that given for previous years, but it should be mentioned that it being the practice to reckon the "sweep" of the premelted gold at .900 standard in returning its value to the importers, the excess resulting from the underestimation of this "sweep" was in past years carried over to diminish the loss in melting into bars.

No doubt the loss of silver in melting into bars is caused chiefly by volatilization. In some finely-comminuted dust which had collected in considerable quantities in the flues and stack, over 2 per cent. of silver was found by assay.

Loss from volatilization is likely to be increased when lead is present, as is frequently the case. It has been an endeavor to avoid exposing the metal to a greater temperature than is necessary to insure perfect union with the alloy, and to execute the dip-assay—which is completed before pouring—as rapidly as possible.

With the exception of 3,570.95 ounces of sycee metal, the silver which has been premelted has come almost entirely from the native cupellation hearths, and usually contains 1 or 2 per cent. of lead, as well as other impurities. Only a part of this lead is removed as oxide in the preliminary melting, forming, however, the chief element in the loss at this stage; what remains not only increases the loss in the second melting, but if in sufficient quantity may injure the color of the coins.

These facts are mentioned to show the advisability of exercising great care in accepting metal for coinage.

In one or two cases the bars cast from premelted silver ingots proved brittle, although the silver before alloying was quite malleable; except for this cause in no case have any gold or silver bars been stopped.

About 236 tons of copper have been refined, making in all about 846 tons since the commencement of the work of the refinery.

The whole has been supplied from native mines and smelting-works.

The copper has been similar to that received in previous years, with the exception of about 100 tons of an unusual character, some notes on which may be of interest. This metal was in thin circular cakes of very vesicular structure, a form produced in native works, as in Europe, by throwing water upon its surface while molten and lifting up and removing the solidified crust with an iron bar. It was of a high degree of purity for crude metal, containing 99.17 per cent. copper, (by wet assay,) very small quantities of iron, lead, and sulphur, but was supersaturated with cupric oxide, and in some cases incrusted with a thin layer of the same. The loss on refining was abnormally great, amounting to 14 per cent. of the weight of the metal treated, being entirely owing to the excess of the cupric oxide present, which when the copper was melted passed into slag. This slag was necessarily very rich in copper, very liquid, destructive to the sides of the furnace, and formed in excessive quantities. Of course much copper will be recovered when it is reduced, but the expenses of its reduction swell the cost of refining, which in the case of this kind of metal is already greater comparatively than that incurred with many kinds of copper of lower percentage, on account of the increased wear and tear of the furnace and the large quantity of timber and charcoal consumed.

The fallacy of valuing any sample of crude copper solely from a consideration of the total percentage of copper present, without regard to its composition in other respects, is well shown in this example.

The furnace, stack, and appliances are in perfect order.

Since the 1st day of February of the present year 16,101,116.50 ounces of metal have been melted and 15,976,600 ounces of copper-coinage bars produced.

The melting department having been found too small for the present out-turn of copper coins, an extension was commenced in March, and is now almost completed.

The additional room contains six powerful air-furnaces, and a reverberatory furnace. The reverberatory furnace is capable of melting two tons of metal per charge, and will be used at first for the production of coinage-bars from the scissel from the rolling department, but ultimately it is intended to melt the whole of the alloy for the copper coins in similar furnaces, by which the expenses of melting will be greatly reduced.

The capabilities of this department have been severely tested. The rolling power at command in the copper-mint being inadequate to the requirements of the last three months, it was found necessary to increase the working-hours.

An additional cutting-out press has been constructed and is now in operation.

The automaton balances have been furnished with new weights and remedy-bars for 5-yen blanks and coins and the limit of the working remedy has been reduced both for this coin and for the trade-dollar. These changes, although limiting considerably the daily out-turn of the department, have effected a marked improvement in the accuracy of the weights of the individual coins.

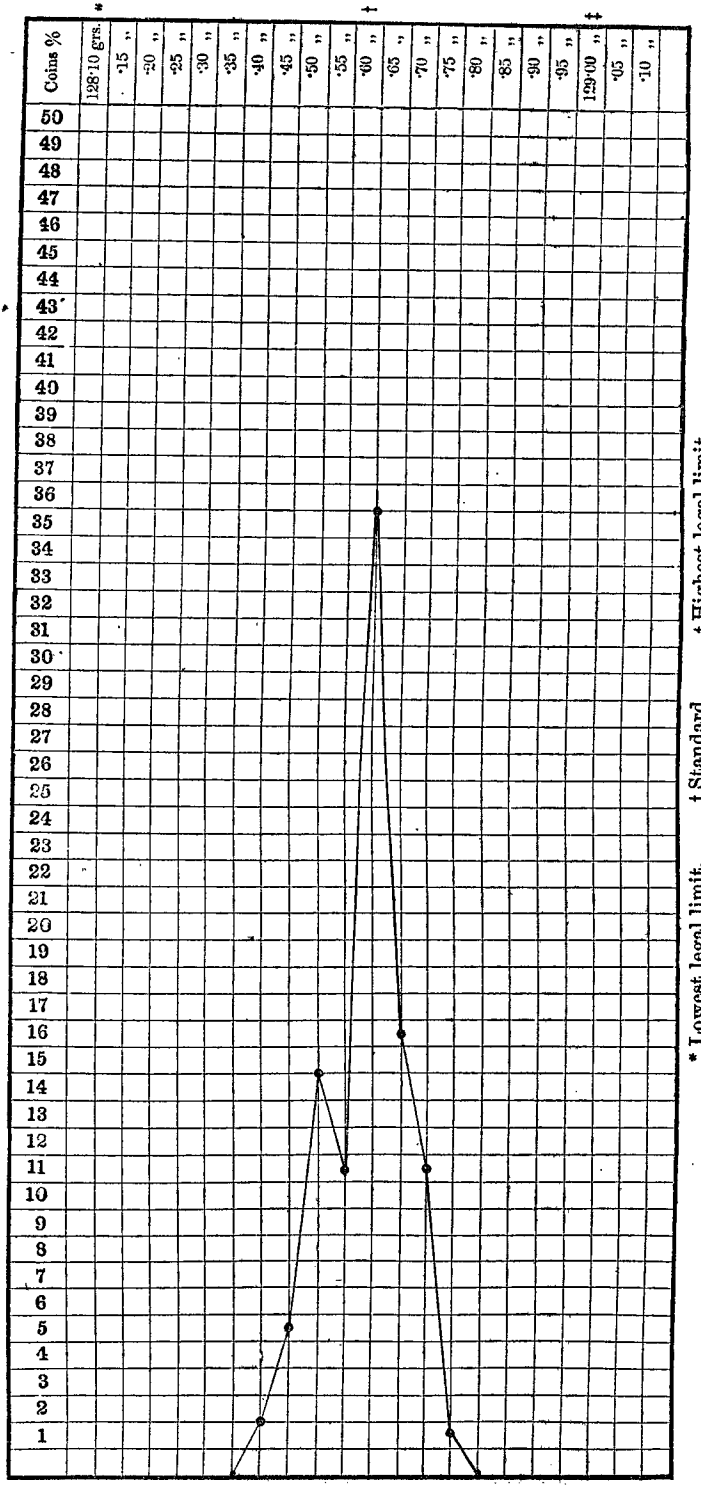
The annexed table, showing the curve of variation in the weights of the 5-yen, bears testimony to the efficacy of the arrangements, so far as this coin is concerned.

The coins whose weights are there shown were 826 in number, taken indiscriminately in the course of the work from each delivery to the bullion department, and each carefully weighed.

As will be observed, the weights vary within very narrow limits compared with the legal variation allowed, 90.8 per cent. lying between 128.5 and 128.7 grains.

The remainder fall well within the legal limits, one coin only being as much as a quarter of a grain below the standard weight, while a deviation of half a grain is allowed.

Curve showing the variation in weight of the gold 5-yen, February 1 to June 30, 1875.



* Lowest legal limit. † Standard. ‡ Highest legal limit.

Although the quantity of gold and silver coins produced has been below the average, there has been no lack of work in the department, on account of the demand for copper coins, the whole of the coining-presses, excepting those for rin, having been daily in full operation. The maximum daily production of copper coins was reached on May 21, when 117,000 ounces, or more than 3¼ tons, were struck.

The mechanical department has been very fully engaged. In addition to the ordinary work, a new cutting-out press has been constructed for the copper-mint, a large number of molds have been prepared for the silver and copper departments, and three large cast-iron evaporating-tanks for the copper-sulphate-reclaiming house.

The castings for the extension of the copper-melting department, together with the iron roof for the same, have also added considerably to the work. In fact, the duties of the engineer of the mint have been of an unusually arduous character.

During the stoppage of the minting-work the engines and boilers will be thoroughly examined and the necessary repairs effected.

The following dies have been produced:

For gold coins	56
For silver coins	426
For copper coins	1,766

One of the leaden condensing-towers having undergone considerable settlement, has been taken down, and in its re-erection special provisions have been made against a similar occurrence in the future. At the same time the supports of the adjacent one were strengthened.

On account of the inadequate means in this department of dealing with the sulphate of copper solutions, the by-products of the gold and silver refinery, three additional large evaporators have been designed and constructed, and will shortly be ready for work.

In conclusion, we beg to acknowledge the ready and willing co-operation of the Japanese officers and of our fellow European officials, to whose united endeavors the satisfactory character of the work of the past half year is due.

We have the honor to be, sir, your obedient servants,

EDWARD DILLON, B. A.,
Associate of the Royal School of Mines.
WILLIAM GOWLAND, F. C. S.,
Associate of the Royal School of Mines.

The COMMISSIONER OF THE IMPERIAL MINT.

THE MINT, *June* 30, 1875.

A.

Trial of pyx for the coins struck in the imperial mint from the 2d to the 6th month of 8th year of Meiji.

On the 29th day of 6th month, by order of his excellency Okuma Shigenobu, sangi and minister of finance, Mr. H. L. Mawatori, the commissioner of the imperial treasury, with the commissioner and the other officers of the imperial mint, assembled at the mint for the purpose of testing the coinage for the half year ending the 30th of the 6th month of the 8th year of Meiji. Mr. Mawatori being deputed for his excellency the minister of finance, presided over this assembly, and Dr. Thomas Antisell, at present employed by the government in the Shihei-rio, was

also present in the assembly, being so appointed by his excellency the minister of finance.

Mr. Mawatori selected indiscriminately from the pyx-pieces the following coins, which were then weighed singly:

Date of coinage.	Denomination.	Weight in grains.	Standard weight.	Deviation allowed.
			Grains.	*Grains.*
March 6, 1875	5-yen	128.50	128.6	0.5
April 13, 1875	5-yen	128.57	128.6	0.5
June 18, 1875	5-yen	128.63	128.6	0.5
February 27, 1875	Silver 1-yen	416.60	416.0	1.5
March 12, 1875	Silver 1-yen	416.05	416.0	1.5
April 14, 1875	Silver 1-yen	417.00	416.0	1.5
April 27, 1875	Trade-dollar	420.20	420.0	1.0
May 11, 1875	Trade-dollar	420.42	420.0	1.0
June 15, 1875	Trade-dollar	420.32	420.0	1.0

The following were then weighed collectively:

Denomination.	Ounces.	Weight per 1,000.
100 five-yen pieces	26.794	267.94
20 silver one-yen pieces	17.362	868.10
1,000 five-sen pieces	43.351	.....
1,000 ten-sen pieces	86.650	.....
100 twenty-sen pieces	17.365	173.65
5 trade-dollar pieces	4.376	875.20

One hundred pieces of 5-yen were melted and cast into a bar, and four assay-pieces were cut from the bar.

Three 5-yen pieces were divided into four equal parts.

Three silver 1-yen, as well as three trade-dollars, were divided into four equal parts, and each piece was again divided into four successive cuttings apportioned to the four samples to be assayed by different persons, or to be reserved.

Twenty silver 1-yen were melted and dip-assay taken, which was divided into four equal parts.

Five trade-dollars were melted and dip-assay taken, which was divided into four equal parts.

One hundred 20-sen, one thousand 10-sen, and one thousand 5-sen pieces, respectively, were then in the similar manner melted, and dip-assay was taken from each, and each such piece was divided into four as before.

The following copper coins were then tested as to weight, with the following results:

Denomination	Number of pieces.	Weight.	Calculated number per pound avoirdupois.
2-sen	32	7,066.0 grs.	31.699
1-sen	64	7,058.0 grs.	63.470
½-sen	127	6,998.0 grs.	127.030
1-rin	504	7,010.0 grs.	503.280

All packets of trial-pieces (45 in number) to be sent to the okurasho or to be reserved at the mint, were then sealed with the mint-seal, before the officials of the assembly.

JUNE 29, 1875.

B.

Each one of the four respective assay-pieces above mentioned was, in presence of Dr. Thomas Antisell, assayed by Mr. Edward Dillon, who reports the result of his assays as follows:

ASSAY-OFFICE, IMPERIAL MINT,
June 29, 1875.

To the Commissioner:

SIR: I have assayed three 5-yen pieces, three silver yen pieces, and three trade-dollar pieces, each piece separately, being the coins selected this morning, in your presence, by Mr. Mawatori. In addition, I have melted down and assayed each denomination of coin separately, one hundred 5-yen, twenty silver yen, five trade-dollars, one hundred 20-sen, and one thousand each of the 10-sen and 5-sen coins. In every case the result of my assay proved the coins, both those separately assayed and those melted into bars, to be within the remedy allowed by the mint regulations.

The following figures give the detail of results:

A.—*Assays of individual coins.*

Denomination of coins.	Number.	Date.	Standard.
Gold 5-yen	1	March 6	899.8 per mille.
Do	2	April 13	900.1 per mille.
Do	3	June 18	900.3 per mille.
Silver yen	1	February 27	900.6 per mille.
Do	2	March 12	900.4 per mille.
Do	3	April 14	900.0 per mille.
Trade-dollar	1	April 27	900.0 per mille.
Do	2	May 11	900.4 per mille.
Do	3	June 15	900.3 per mille.

B.—*Assays from dip or cutting after melting.*

	Per mille.
Gold 5-yen cutting from bar	900.05
Silver yen cutting from dip	900.6
Trade-dollar cutting from dip	900.2
Twenty-sen cutting from dip	799.9
Ten-sen cutting from dip	800.7
Five-sen cutting from dip	800.1

The coins separately assayed, as well as the dips taken from those melted, were in each case cut up in four pieces, one of which was assayed by me, the other three being sealed up, each in a separate packet.

In the case of the trade-dollar and silver yen, to insure uniformity of composition in the samples, each piece was again subdivided into four, in such a way that the four smaller pieces in each packet may represent different parts of the original coin.

I have the honor to remain your obedient servant,

EDWARD DILLON, *Assayer.*

By the special order of his excellency the minister of finance, two packets each of the respective assay-pieces have been sent, under care of Mr. Mawatori, to the finance department, and they, it is understood, are to be sent both to England and the United States of America.

T. ISHIMAL,
Commissioner of Imperial Mint.

30th day of 6th month, 8th year of Meiji.

Report of Mr. H. L. Mawatori, commissioner of the imperial treasury, on the annual assay held at the imperial mint on the 29th of 6th month of 8th year of Meiji.

YOUR EXCELLENCY: I have the honor to submit to your excellency this report on the assembly for the purpose of "trial of coins" struck during the half year ending the 30th of 6th month of the present year, held at the imperial mint, over which I had the honor to preside, as your excellency's deputy, in compliance with your excellency's special instruction.

On the 17th of the 6th month, I was on the point of leaving for Osaka with a commission, when I received the special instruction above referred to.

On my arrival at Osaka, I made an arrangement with Mr. T. Ishimal, commissioner of the imperial mint, for the purpose of calling the said assembly, but we suddenly received your message, both by telegram and post, communicating to us that Dr. T. Antisell, of the United States of America, at present employed in the Shihei Riyo, had also been appointed to attend the assembly in accordance to articles 2 and 8 of the regulations.

The assembly was accordingly delayed until 29th of the 6th month, when he arrived at Osaka. It commenced at 9.15 a. m. and consisted of the following officers, viz:

Mr. T. Ishimal, commissioner.
Mr.H. Hasegawa, assistant commissioner.
Mr. N. Ohno, superintendent of bullion office.
Mr. T. Hasegawa, accountant of assay-office.
Mr. H. Toyohara, superintendent die department and sulphuric-acid works.
Dr. T. Antisell, of Shihei Riyo.
Mr. E. Dillon, assayer.
Mr. W. Gowland, chemist, metallurgist, &c.

The "trial" had been carried through in conformity with the established regulations, and ended at 6.45 p. m.

I have then caused the commissioner to send in his report, (A*,) inclosing the report (B†) of the assayer, both of which are herewith accompanied, and explain faithfully what in fact had been done. I have also to forward to your excellency thirty sealed packets of trial-pieces, accompanied by a list, which I received from the commissioner on the 6th instant. These pieces have been taken from the "pyx-pieces," &c., in presence of the assembly, and are understood to be sent both to England and the United States of America.

Dr. Antisell will send in his report directly to your excellency, according to the special instruction.

---

* See p. 350. † See p. 352.

The above records the circumstances attendant on the proceedings of the annual assay, which was accomplished under your excellency's instruction, by myself and other officials above named.

I have the honor to be, your excellency's most obedient servant,

H. L. MAWATORI,
Commissioner of the Imperial Treasury.

7th month of 8th year of Meiji.

To HIS EXCELLENCY OKUMA SHIGENOBU,
Minister of Finance, &c., Tokio.

Report of Dr. T. Antisell, of Shihei Riyo, on the annual assay held at the imperial mint, Osaka, on the 29th of 6th month of 8th year of Meiji.

To SANGI OKUMA SHIGENOBU,
Okura Kiyo:

SIR: In compliance with instructions received from you, I proceeded to Osaka, and was present at the annual assembly and inspection of the mint, and have the honor to forward the inclosed report of the examination of the coinage made on that occasion.

And remain, very respectfully,

THOMAS ANTISELL.

TOKEI, SHIHEI RIYO, *July* 10, 1875.

REPORT.

The assembly held at Osaka on June 29, 1875, for inspection and examination of the coinage of the imperial mint at Osaka, although occurring at the time of annual inspection, was in fact only an inspection made since February 1, 1875, owing to an inspection having been made during the month of January previous.

The examination and inspection was conducted in the presence of Mr. Commissioner Mawatori and Mr. Director Ishimal and other authorized officers.

It commenced with the opening of the safe or box containing the coins, set aside at each coinage for this purpose, and ascertaining the number and value of the pieces.

The number of pieces contained in the iron safe, which had been selected from the coinage made since the last inspection, was as follows, viz:

GOLD.		SILVER.	
20-yen	None.	Trade-dollar	9
10-yen	None.	1-yen	24
5-yen	158	50-sen	None.
2-yen	None.	20-sen	111
1-yen	None.	10-sen	1,407
		5-sen	1,395

Out of this collection Mr. Commissioner Mawatori selected indiscriminately for examination the following:

GOLD.		SILVER—(continued.)	
5-yen	103	20-sen	100
SILVER.		10-sen	1,000
Trade-dollar	8	5-sen	1,000
1-yen	23		

In order that those not conversant with chemical examination may have a general comprehension of the line of direction of such examination, it may be necessary here to state that the usual method adopted at inspection of mint-coinage made in one year consists in seeing the following processes accurately performed:

Processes:

1. Weighing individual coins.
2. Weighing the number of coins contained in 1 pound avoirdupois.
3. Chemical assay of individual gold coins.
4. Chemical assay of gold coin melted into ingots.
5. Chemical assay of silver coins individually.
6. Chemical assay of silver coins melted and before being made into bar, while still fluid, dipped out, and the assay made from cuttings of the dip.
7. Proof-assays—assays made upon pure silver and gold to check off the coin-assays.

The above processes were carried out on the present occasion.

The coins were first tested in regard to their correctness as to weight. The operations of weighing were carried on by Mr. Gowland, and the same balance which had been used on former occasions, and which works very accurately, was employed.

The gold and silver coins being of three dates of coinage, one piece out of each of the entire number of a denomination was selected by the commissioner and weighed individually. Nine coins were thus selected —3 gold yen, 3 silver yen, and 3 trade-dollars—the weights of which were respectively as follows:

Denomination.	Date of coinage.	Weight.	Standard weight.	Deviation allowed.
		Grains.		*Grains.*
Gold 5-yen	1.—March 6, 1875	128.50	128.60	0.5
Do	2.—April 13, 1875	128.57	128.60	0.5
Do	3.—June 18, 1875	128.63	128.60	0.5
Silver 1-yen	1.—Feb. 27, 1875	416.60	416.00	1.5
Do	2.—March 12, 1875	416.05	416.00	1.5
Do	3.—April 14, 1875	417.00	416.00	1.5
Silver trade-dollar	1.—April 27, 1875	420.20	420.00	1.0
Do	2.—May 11, 1875	420.42	420.00	1.0
Do	3.—June 15, 1875	420.32	420.00	1.0

The deviation allowed for gold and silver coin, including the trade-dollar, is for either way; that is, for above or below the standard weight.

As may be seen by the above table, these coins are according to the authorized weight.

The gold and silver coins were next weighed in number together with these results:

Denomination.	Number selected.	Weight.	Standard weight.	Deviation allowed on 1,000 pieces.
		Troy ounces.	*Troy ounces.*	*Ounces.*
Gold 5-yen	100	26.794	26.791	0.015
Silver 1-yen	20	17.362	17.333	3.28
Silver trade-dollar	5	4.376	4.375	2.08
Silver 20-sen	100	17.365	17.33	0.10
Silver 10-sen	1,000	86.650	86.66	0.05
Silver 5-sen	1,000	43.351	43.33	0.05

As there were not 100 silver yen to be weighed in bulk, an even number (20) were selected by the removal of three by Mr. Commissioner Mawatori, and the weight of these twenty was taken as above; the result for 100 at the same rate would be 86.81 ounces. The lowest standard weight allowed for this number is 86.34 ounces, and the highest allowed weight is 86.97 ounces, the mean being of 86.65 ounces. From this it will be seen that the coin was within the limits of deviation and very close to the mean.

Similarly with the gold five yen, the results of the weight of 100 pieces when brought up by calculation to 1,000, came within the limits of deviation allowed, and is therefore of the standard required by regulation.

Of the subsidiary silver coin, 20, 10, and 5 sen, the limit of deviation allowed for the 20 sen would bring the maximum allowed weight up to 17.43 ounces, and it comes within the limits; and so of the lesser coins; on account of the small deviation allowed in the imperial mint for these subsidiary coins, it is not always possible to bring their weights to the exact standard.

The copper coins were tested as to weights, with these results:

Denomination.	Actual number weighed.	Actual weight.	Actual number in 1 pound avoirdupois.	Actual number allowed by regulation.
2-sen	32	70.66	31.699	31.801
1-sen	64	70.58	63.47	63.63
½-sen	127	69.98	127.03	127.27
1-rin	504	70.10	503.28	500.00

The remedy allowed on copper coins for the whole series is 24 grains on the troy pound.

The assay value of the gold and silver coins was next tested; the copper coinage is not assayed at the inspection.

The assays were made by Mr. Dillon with the following results:

GOLD FIVE-YEN.

No. 1. March 6	899.8 parts of gold in 1,000
No. 2. April 13	900.1 parts of gold in 1,000
No. 3. June 18	900.3 parts of gold in 1,000
Mean	900.06

The standard of fineness authorized in the currency system and mint regulations by this government is 9-10ths, or 900 parts of gold in 1,000 parts of coin, with an allowed limit of deviation (remedy) of two parts in either way, within which limit these gold coins stand, as may be seen by reference to the table; and are very close to the authorized standard.

The assays of gold coins were performed by cupellation.

As on previous occasions of inspection, some gold coins were melted together and cast into ingot; 100 five-yen, being the balance of the number from which the above examined three pieces of 5 yen had been selected, were on this occasion melted, cast into bar, and assayed.

This 5-yen bar yielded 900.05 in 1,000 parts of gold, being almost exactly the same composition as that of the mean of the three individual assays given above; and it is, therefore, according to regulation. In order to verify the exactness of these assays, as regards the fineness of gold, plates of perfectly pure gold, which had been used on former in-

spections, were cupelled and treated with acid in the same way as for the coin assay, and yielded results perfectly similar.

The assays of silver, also made by Mr. Dillon, were performed by the volumetric method, according to the improved Gay Lussac process.

The twenty (20) silver one-yen coins remaining over after the examination of the individual silver coin were melted and dip-assays taken. These dips when cool were subdivided into four parts, one of which was used for analysis. The trade-dollar was also examined from the dip-assay, as were also the subsidiary silver coins treated in like manner, viz, by melting, dipping, cutting of dip into four parts and examination of one of these.

SILVER ONE-YEN.

No. 1. February 27	900.6 parts of silver in 1,000 of coin.
No. 5. March 12	900.4 parts of silver in 1,000 of coin.
No. 6. April 14	900.0 parts of silver in 1,000 of coin.
Mean	900.33

The standard of fineness of the silver yen, and the limit of deviation allowed, are the same as for the gold coin; these assay results being, therefore, within the limits, show the close adherence to the standard of coinage by not falling below 900 parts of silver.

TRADE-DOLLAR, ASSAY IN BAR.

No. 7. April 27	900.0 parts of silver in 1,000 of coin.
No. 8. May 11	900.4 parts of silver in 1,000 of coin.
No. 9. June 15	900.3 parts of silver in 1,000 of coin.
Mean	900.23

The standard of fineness is the same as for the foregoing coin, as also the deviation allowed, within which these assay results come.

DIP-ASSAYS FROM POTS.

The following silver assays were made from cuttings of the dip in the way before described:

Trade-dollar	900.2 parts of silver in 1,000
1-yen silver	900.6 parts of silver in 1,000
20-sen silver	799.9 parts of silver in 1,000
10-sen silver	800.7 parts of silver in 1,000
5-sen silver	800.1 parts of silver in 1,000

The dip-assays of the trade-dollar and silver yen confirm the assays of individual coins as given above.

The subsidiary silver coin—20 sen, 10-sen, and 5-sen—have a lower standard of fineness, or 800 parts of silver in 1,000 parts of coin, with a remedy of 2 parts per thousand either way. The mean of the assays of the subsidiary coin gives 800.2, which is within the maximum limit of deviation, viz, 802. They must therefore be considered as coming within the authorized regulation, which in this case is too small.

Attention is called to this point further on.

In all these silver-coin assays the correctness in strength of the silver-precipitating solution (of sodium chloride) was verified by trial of same with silver plate perfectly pure and dissolved in acid; these proof assays corresponded accurately with the coin assays.

It is not customary at inspection to make assays of the copper coinage.

Having witnessed and co-operated in the examinations made of all the coins issued from the imperial mint since the date of the last report, I have the pleasure to state that the results were perfectly satisfactory for the various denominations, they having the fineness required, and coming within the deviations required by the regulations of the imperial government, and they are therefore in all respects conformable to the laws regulating the coinage.

I desire here to state my opinion of the high working efficiency of this branch of the government service; and of the ease, accuracy, and rapidity with which such delicate operations as those of the chemical portion of a mint are carried on. I may also mention that the apparatus used are of the most recent construction, and the processes conducted according to the most approved methods; and it is my opinion, derived from this inspection, that the utmost reliance may be placed upon the work conducted under the present management, and according to the present regulations, producing, as here evidenced, accuracy of coinage and uniform adhesion to the standard of previous coinage, and justifying the confidence of the public, both native and foreign, in the value of the national coin.

In conclusion I take the liberty of making the following suggestions which have occurred to me, arising out of my attendance at the inspection:

1. In carrying out regulation three of the "annual assay," given in the mint regulations, it is desirable that the number of the higher coins, both gold and silver, taken out by the superintendent should be so adjusted in number, that at the time of inspection there should be a number so large as to allow the assay of at least one individual coin of each coinage and still leave a balance over, so that not less than one hundred coin should remain for melting into bar.

2. In the present assay-rooms, the balance is not advantageously situated, nor is it isolated from other work; it should be an apartment devoted solely to weighing, and free from external influences, either of atmosphere or movement of individuals. A separate and special apartment is what is needed.

3. On account of the difficulty which prevails in obtaining an equal percentage composition in all parts of an alloy when cooled and rolled out, a difficulty which from several causes is felt more in the production of the smaller than of the larger coin, it is desirable that a greater limit of variance or "deviation" than that set down in the "regulations" should be allowed, so far as the subsidiary silver coins are concerned. It has been felt necessary in the mints of various countries to have the deviation of the small silver coin at a higher percentage than that of the larger coin. There appears to be no good reason why the officials of the imperial mint should be compelled to carry out more difficult operations than is adopted in Europe or America. The deviation allowed might with advantage be extended in the case of the small coins to at least three per mille, as has been suggested in previous reports of the imperial mint at Osaka, made to this government.

I have the honor to remain, with great respect,

THOMAS ANTISELL, M. D.

TOKIO, SHIHEI RIYO, *July* 10, 1875.

Letter from Hon. Charles W. Fremantle, the deputy master of the royal mint, London, with the reports on assays of coins, &c., of the half year ending the 31st of the first month of eighth year of Meiji, and sent to London by the ex-director previous to his departure.

APRIL 17, 1875.

SIR: I have the honor to transmit to you herewith a statement showing the result of the assays made in this department on the gold and silver pyx coins and ingots of the imperial Japanese mint for the half-year ending 31st of January, 1875, which has been forwarded to me by direction of the lords commissioners of Her Majesty's treasury.

You will perceive that the result of the examination has in each case been satisfactory, and I have, in accordance with Major Kinder's request, furnished to the Oriental Bank Corporation a statement of the mint charge for making these assays, amounting to £1 2*s.* 6*d.*

I have the honor to be, sir, your obedient servant,

C. W. FREMANTLE,
Deputy Master of the Mint.

The DIRECTOR OF THE IMPERIAL MINT, *Osaka, Japan.*

Assay reports on portions of "pyx coins" and pieces from "test ingots" sent from the imperial mint of Japan.

No.	Denomination.	Japanese mint assay.	Royal mint assay.
	GOLD.		
1	5-yen coin	900.3	900.5
2	do	900.0	899.7
3	do	899.8	899.8
5	5-yen bar	900.0	899.8
	Mean	*900.25	899.95
	SILVER.		
4	1-yen coin	900.0	900.1
6	do	900.1	900.7
7	2-sen bar	799.6	799.8
8	10-sen bar	799.0	800.3
9	5-sen bar	800.5	799.7
	Mean	900.05 799.7	900.4 799.93

* Should read 900.02.

W. CHANDLER ROBERTS,
Chemist and Assayer of the Mint.

ROYAL MINT, LONDON, *April* 17, 1875.

Government notification relative to the amendment of the mint regulations.

NOTIFICATION NO. 62.

The mint regulations have first been established during the fifth month of the fourth year of Meiji, and modifications and additions in them have since been notified; but owing to the progress of the works, they are now amended as accompanied herewith.

The above is made known.

SANJO SANETOMI,
Daijo Daijin.

20th day of fourth month of eighth year of Meiji.

Mint regulations.

ART. I. The imperial mint will be open every day, with the exception of the holidays mentioned below, for the reception of bullion from the public applying (Japanese) through the mitsui gumi at Osaka or (foreigners) through the Oriental Bank Corporation at Kobe, from 10 a. m. until 1 p. m.

HOLIDAYS.

Sundays.
From the 1st to the 3d (both inclusive) of the first month.
5th and 30th of the first month.
11th of the second month.
3d of the fourth month.
17th of the ninth month.
3d and the 23d of the eleventh month.
From the 29th to the 31st (both inclusive) of the twelfth month.

ART. II. The mint will be closed for the reception of bullion every year from the 16th of the sixth month until the 15th of the eighth month.

ART. III. If the mint stops on account of any extraordinary occurrence, the receipt of bullion will of course be declined. On such occasions public notice will be given without delay.

ART. IV. Gold or silver bullion of known standard, as well as foreign gold or silver coin of known standard, will at once be received by the superintendent of bullion-office, and returned in standard gold coins for gold, and in silver "trade-dollar" for silver, in accordance with the mint regulations.

Should, however, the mint assayer require to test its fineness by "check assays," such bullion will be deposited provisionally in the bullion-office, and be or be not accepted after its fineness has been proved to the importer by the mint assays.

NOTE.—Gold bullion to be in quantities not less than fifty ounces (50 oz.) troy, (or about 414 momme,) and silver bullion to be not less than one thousand ounces (1,000 oz.) troy, (or about 8,280 momme.)

ART. V. All gold and silver bullion or gold and silver coin whatever, (excepting silver boos in the possession of foreigners,) the fineness of which is not apparent, will be temporarily received, and after premelting and assaying, its fineness will be determined.

If it proves suitable for the purpose of coinage, it will be accepted. The bullion which has been refined at the refinery of the mint (Art. 7) will not require to be premelted.

NOTE.—The amount to be the same as mentioned in Art. 4.

ART. VI. If either gold or silver bullion or gold and silver coin, after premelting and assaying, be found unfit for the purpose of coining, it will be returned to the owner, who will be charged with the expenses of premelting and assaying of such bullion.

NOTE.—The said premelting and assay fees to be charged according to the uniform price specially established by the mint.

ART. VII. Gold or silver bullion, as well as bullion of gold and silver alloy, not suited for the purpose of coining, will be received and refined by the mint refinery for the owner's convenience.

NOTE.—The cost of refining to be borne by the applicant, according to a uniform scale of prices established for the said refinery.

ART. VIII. On the receipt of any bullion to the imperial mint, "a provisional receipt" will be given to the importer by the superintendent of bullion-office. After the determination of its fineness by the assayer of the mint, an acceptance letter by the commissioner will be made out

and forwarded to the importer, with a copy of assay report inclosed. This document is to be signed by the importer before the bullion is accepted for coinage.

ART. IX. On the acceptance of gold or silver bullion or coin for coinage by the mint, an order will be issued, payable in twenty days after date, for the value of the outturn, less the mint charges.

NOTE.—Such order is to be payable within above specified time (Japanese) by the mitsui gumi or (foreigners) by the Oriental Bank Corporation.

ART. X. The cost of coining the standard gold coins shall be one per cent. for the present.

ART. XI. The cost of coining the silver "trade-dollar" shall be one and a half per cent. for the present.

ART. XII. The cost of premelting both gold or silver shall be one per mille for the present.

ART. XIII. Worn Japanese coins of the new standard will be received for recoinage, at their value by weight, at a charge of one-half of one per cent. for gold coins, and one per cent. for silver "trade-dollar." But no expenses will be charged for recoinage of subsidiary coins.

ART. XIV. The regulations shall be subject to such additions or modifications as experience shall prove to be necessary.

NOTE.—Such changes shall be made known to the public generally without loss of time.

The above rules are hereby established.

BOARD OF FINANCE.

Fourth month Meiji, eighth year.

Annual assay.

I. In order to see whether all coins delivered from the imperial mint are in all respects conformable to the laws regulating the coinage, there shall be once every year an assembly held at the mint for the trial of the annual assay.

II. Either the minister or the assistant minister of the finance department shall be appointed to preside over that assembly. And any other officer or officers under the Japanese government, and efficient chemists, both foreign and Japanese, shall be appointed to attend the meeting, provided that the Japanese government deemed it expedient or necessary.

III. To provide for this purpose the superintendent of the bullion-office will, at each delivery of coins from the operative department, personally take out a certain number of coins from each denomination in presence of the assayer. And the pieces thus taken shall be packed up and sealed conjointly by the said two officials in presence of the commissioner, and will be signed by and deposited in the hands of the commissioner, and all the details, such as the number and denominations of the said coins, the date of packing thereof, &c., shall be entered into the record especially kept for that purpose.

NOTE.—In thus taking and packing coins for reserve no other person or persons shall be suffered to interfere.

IV. The said package of coins, together with a note stating, both in Japanese and English, the denomination and number of the said coins therein, the date of delivery and any other details necessary, shall be kept by the commissioner under lock in an iron safe.

V. From every one thousand (1,000) of twenty-yen, ten-yen, and five-yen, respectively, the superintendent of bullion-office shall take out one piece; from every five thousand (5,000) of the two-yen and one-yen, respectively, he shall take out one piece.

VI. From every five thousand (5,000) of the trade-dollar shall be kept one piece.

VII. One piece shall be kept for every two thousand (2,000) of any subsidiary silver coins, without regard to their denominations.

VIII. In the presence of the officers assembled for the purpose of the annual assay the assayer of the mint shall go through the necessary processes for that end. On this occasion an assayer or assayers may be appointed, according to the discretion of the government, to co-operate with the assayer of the mint.

The foregoing rules for annual assay of coins are hereby established, with authority of the imperial government, by

OKUMA SHIGENOBU,
Minister of Finance.

First month Meiji, eighth year.

B 13.

Second annual report of the commissioner of the imperial mint, Osaka, Japan, for the year ending 30th of sixth month of ninth year of Meiji, (30th June, 1876.)

OSAKA, THE IMPERIAL MINT,
30th of sixth month of ninth year of Meiji, (30th June, 1876.)

MAY IT PLEASE YOUR EXCELLENCY: The undersigned, T. Ishimal, commissioner of the imperial mint, has the honor to submit to your excellency, for the information of His Majesty's government, the second annual report of the imperial mint for the year ending 30th of the sixth month of the ninth year of Meiji, (30th June, 1876.)

Amount of gold of standard fineness imported into the imperial mint during the year.

Imported by—	Ounces troy, at .900 standard.	
Imperial government	9,232	22
Japanese	9,709	68
Chinese	128	29
Foreigners	178	01
Total	19,248	20

Description of gold bullion imported during the year.

Description.	Ounces troy.	
Gold bars of unknown fineness	13,359	57
Refined gold bars of unknown fineness	4,930	72
Gold bars of known fineness	276	89
Chinese gold	73	33
Total	18,640	51

Amount of silver of standard fineness imported during the year.

Imported by—	Ounces troy, at .900 standard.	
Imperial government	1,465,711	49
Japanese	43,623	32
Chinese	None	
Foreigners	1,474	30
Total	1,510,809	11

Description of silver bullion imported during the year.

Description.	Ounces troy.	
Silver bars of unknown fineness	335,697	06
Refined silver bars of unknown fineness	1,042,544	98
Chinese silver bars	1,348	77
Chinese sycee	67,978	89
Total	1,447,569	70

The following coins have been struck and passed for issue during the year:

Denomination.	Number.	Value.
Gold 20-yen	84	1,680.00
Gold 10-yen	65	650.00
Gold 5-yen	75,831	379,155.00
Gold 2-yen	40	80.00
Gold 1-yen	179	179.00
Total	76,199	381,744.00
Silver trade-dollar	124,445	124,445.00
Silver 50-sen	1,303	651.50
Silver 20-sen	1,557,565	311,513.00
Silver 10-sen	11,063,555	1,106,355.50
Silver 5-sen	8,401,447	420,072.35
Total	21,148,315	1,963,037.35
Copper 2-sen	19,466,641	389,332.82
Copper 1-sen	41,744,559	417,445.59
Copper ½-sen	26,232,692	131,163.46
Copper 1-rin	223,190	223.19
Total	87,667,082	938,165.06
Grand total	108,891,596	3,282,946.41

As in my last report, the coinage of gold has principally been restricted to "five-yen" pieces; that for silver, to small subsidiary coins; the "trade-dollar" shows a very small outturn. On the other hand, all denominations of copper have been produced, amounting on an average to about one hundred thousand yen (yen 100,000) in value per month.

In conformity with a special order of the government, new dies for gold, silver, and copper coins, (intended for the universal exhibition to be held this year at Philadelphia,) have been struck, and forwarded to Tokei on the first month of this year, (January, 1876.) It ought, however, to be borne in mind that these coins, being merely produced for the American exhibition, are very few in number.

It may be mentioned here that, on page 6, line 4, of the clause headed "trade-dollar" in the commissioner's first report for the half year ending

the 30th of the 6th month of the 8th year of Meiji, (30th June, 1875,) "1 per mille" should read "1 grain."

Since the spring of last year, the war medals, numbering in all 3,677 pieces, (struck at the mint in compliance with a government order,) have been sent to Tokei on 11th month of last year, (November, 1875.)

In obedience to an order given by your excellency on the 9th month last, (September, 1875,) for a supply of stamps for branding new and old measures and balances, the following stamps have been struck in the mint, viz:

	Pieces.
Ordered	13,875
Made	7,675
Leaving balance to be made	6,200

The former telegraph-wire from the mint being united to the Kawaguchi office, and therefore very circuitous, advantage was taken during some repairs and alterations being made by the Denshin Riô (telegraph department) to have this line in direct communication with the Korai Bashi office. This reduces the line to about one-third. The "Brêguet" formerly in use has been replaced by "Morse," (B. T. M.)

Mr. Ohno, the superintendent of the coppersmith department, has made some forty or fifty balances, which compare very favorably with those made by Europeans. He has also made one, which has been sent to the finance department, and another, presented to the exhibition at Philadelphia. He has also made a very handsome clock, which I have had placed on the front part of the mint facing the river.

The number of European officials employed at the mint has been increased by the engagement of Mr. J. W. Malcolm. I had your excellency's permission, owing to yearly increase of correspondence with foreigners, to engage this gentleman as secretary.

Mr. Malcolm, when at leisure, assists the students of the Nisshin Gakkô.

The following is the number of the officials, subofficials, workmen, servants, &c., at present employed in the mint:

Officials	80	
Subofficials	85	
		165
Workmen, Servants,		391
Total		556

During the year the number of visitors on Tuesdays (especially set apart for Japanese) amounts in all to 19,140.

Visitors on Tuesdays		19,140
Visitors on other days—		
Japanese	685	
Foreigners	237	
		922
Total		20,062

The above refers principally to the mint itself, and some remarks regarding the refinery and the sulphuric-acid works will be briefly given.

The weight of gold and silver bullion refined during eleven months,

from the 8th month of last year, (August, 1875,) to the 6th month of this year, (June, 1876,) was as follows:

Imported by—	Pure gold. Ounces troy.	Pure silver. Ounces troy.	Total. Ounces troy.
Imperial government	100, 589. 56	1, 049, 323. 77	1, 149, 913. 33
Japanese	1, 299. 93	4, 354. 93	5, 654. 86
Foreigners	97. 91	26. 54	124. 45
Total	101, 987. 40	1, 053, 705. 24	1, 155, 692. 64

The following amount of sulphates of copper and of iron was sold during eleven months:

	Kin.
Sulphate of copper	22, 100
Sulphate of iron	41, 500
Or, average amount sold per month:	
Sulphate of copper	2, 009
Sulphate of iron	3, 772

The work in this department has been more active during the last twelve months than formerly, mainly owing to the demand for the Chinese market and from the fact that the demand is daily increasing in this country.

The large stock of acid manufactured during the preceding years and stored at the works being exhausted, the working of the chambers recommenced on the 24th day of the fifth month, (24th May, 1876.)

The original "concentrating-house" having been found too small to meet the demand, a new "concentrating-house" of the same capacity has been erected (with some modifications and improvements) at the back of the works. This shows a considerable saving in lead piping and also in the consumption of fuel.

The following shows the amount of sulphuric acid sold during the year, but it should be borne in mind that the monthly average gives no adequate idea as regards the extent of the demand at present, because the "concentrating-house" has only been in full work since the 14th day of sixth month, (14th June, 1876,) when it was completed, and the amount sold during that month only exceeded 168,000 pounds, (*i. e.*, as much as could be concentrated in both houses, working day and night.)

	Pounds.
Amount sold	736, 486
Monthly average	61, 373. 83
Monthly average of the last year	21, 101. 80
Difference of monthly average in favor of this year	40, 272. 03

Of the whole amount sold (viz, 736,486 pounds) 352,472 pounds have been exported to China by the China and Japan Trading Company.

The following amounts of nitric and muriatic acids have also been sold during the year:

	Pounds.
Nitric acid,* (common)	13, 428
Nitric acid, (redistilled)	1, 269
Muriatic acid, (common)	4, 750
Muriatic acid, (redistilled)	418

*For the analysis of the nitric acid see p. 381.

The number of workmen employed in this department up to the fifth month, (May, 1876,) when the working of the chambers recommenced, was only seven, but now this has been increased to twenty.

The above is a general review of the mint; details of other operations will be found in the memorandum of the advisers, for which please refer to the appendix accompanying this report.

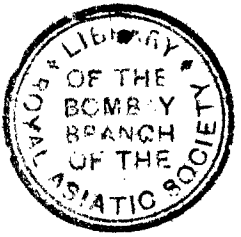
I have the honor to be, your excellency's most obedient servant,

T. ISHIMAL,

Commissioner of the Imperial Mint, Osaka.

To His Excellency SANGI OKUMA SHIGENOBU,

Minister of Finance.



APPENDIX.

Account of all gold, silver, and copper money coined at the mint from the opening of the mint up to the 30th of 6th month of 9th year of Meiji, (June 30, 1876.)

Description.	Amount coined.			Pyx piece.		Amount issued.		Calculated weight of coins issued.
	Weight.	Number.	Value.	Weight.	Value.	Weight.	Value.	
Gold 20-yen	49,491.99	46,180	923,600.00	43.90	820.00	49,448.09	922,780.00	49,445.62
Gold 10-yen	1,001,472.23	1,868,925	18,689,250.00	980.86	18,300.00	1,000,491.37	18,670,950.00	1,000,451.73
Gold 5-yen	1,461,077.96	5,453,715	27,268,575.00	1,444.34	26,965.00	1,459,633.62	27,241,610.00	1,459,696.20
Gold 2-yen	94,727.75	883,482	1,766,964.00	20.25	378.00	94,707.50	1,766,586.00	94,659.57
Gold 1-yen	108,766.36	2,029,693	2,029,693.00	21.12	395.00	108,745.18	2,029,298.00	108,736.55
Total	2,715,536.23	10,281,995	50,678,082.00	2,510.47	46,858.00	2,713,025.76	50,631,224.00	2,712,989.67
Silver 1-yen	4,132,640.63	4,767,238	4,767,238.00	744.86	860.00	4,131,895.77	4,766,378.00	4,130,860.94
Silver trade-dollar	142,478.99	162,805	162,805.00	32.34	37.00	142,446.65	162,768.00	142,421.95
Silver 50-sen	3,288,822.64	8,002,967	4,001,483.50	1,631.33	1,984.00	3,287,191.31	3,999,499.50	3,283,006.36
Silver 20-sen	2,633,653.33	15,656,890	3,131,378.00	1,274.33	1,516.40	2,632,379.00	3,129,861.60	2,634,074.83
Silver 10-sen	3,021,070.26	35,333,632	3,533,363.20	1,490.00	1,745.80	3,019,580.26	3,531,617.40	3,019,226.75
Silver 5 sen	1,220,650.13	28,500,979	1,425,048.95	604.76	707.40	1,220,045.37	1,424,341.55	1,217,368.43
Total	14,439,315.98	92,424,511	17,021,316.65	5,777.62	6,850.60	14,433,538.36	17,014,466.05	14,426,959.76
Copper 2-sen	17,574,935.58	38,363,580	767,271.60	22.91	1.00	17,574,912.67	767,270.60	17,583,284.48
Copper 1-sen	19,790,127.02	86,347,045	863,470.45	80.15	3.50	19,790,046.87	863,466.95	19,787,724.09
Copper ½-sen	6,069,339.20	52,908,852	264,544.26	22.88	1.00	6,069,316.32	264,543.26	6,062,449.62
Copper 1-rin	309,968.49	10,698,300	10,698.30	5.82	0.20	309,962.67	10,698.10	312,027.89
Total	43,744,370.29	188,317,777	1,905,984.61	113.76	5.70	43,744,238.53	1,905,978.91	43,745,546.08
Grand total	60,899,222.50	291,024,283	69,605,383.26	8,419.85	53,714.30	60,890,802.65	69,551,668.96	60,885,495.51

One trade-dollar to be taken as the equivalent of one yen.

Report of the technical advisers of the mint.

SIR: We beg to submit for your information the following report on the various operations of the mint, extending from the sixteenth day of August, 1875, to the thirtieth day of June, 1876.

The coins struck during the period were of the following denominations:

Gold	Twenty-yen.
Gold	Ten-yen.
Gold	Five-yen.
Gold	Two-yen.
Gold	One-yen.
Silver, (900 standard)	Trade-dollar.
Silver, (800 standard)	Fifty-sen.
Silver, (800 standard)	Twenty-sen.
Silver, (800 standard)	Ten-sen.
Silver, (800 standard)	Five-sen.
Copper	Two-sen.
Copper	One-sen.
Copper	Half-sen.
Copper	One-rin.

An account of the fineness, weights, and numbers of these coins will be found in the following tables:

TABLE 1.—*Table showing the weight, number, average weight and fineness of the gold and silver coins certified to be fit for issue and delivered from the operative department during each month.*

Date.	Denomination.	Weight.	Number.	Weight per 1,000 pieces.	Standard weight per 1,000 pieces.	Permitted deviation.	Average fineness.	Standard fineness.	Legal remedy of fineness.
		Troy oz.		*Troy oz.*	*Troy oz.*	*Troy oz*			
August, 1875	Gold 5-yen	397.88	1,485	267.933	267.916	.075	900.00	900.00	2 per mille.
Do	Silver trade-dollar	3,745.67	4,280	875.156	875.000	2.083	899.91	900.00	Do.
Do	Silver 20-sen	11,411.55	65,851	173.293	173.333	.100	800.02	800.00	Do.
September, 1875	Gold 5-yen	929.71	3,470	267.927	267.916	.075	900.15	900.00	Do.
Do	Silver trade-dollar	7,695.73	8,793	875.211	875.000	2.083	900.20	900.00	Do.
Do	Silver 20-sen	1,021.32	5,891	173.369	173.333	.100	800.02	800.00	Do.
Do	Silver 10-sen	105,533.37	1,217,617	86.674	86.666	.050	799.86	800.00	Do.
Do	Silver 5 sen	35,577.09	821,102	43.328	43.333	.050	8 0.15	800.00	Do.
October, 1875	Silver trade-dollar	9,412.32	10,757	874.995	875.000	2.083	900.13	900.00	Do.
Do	Silver 10-sen	119,776.86	1,381,933	86,673	86.666	.050	800.13	800.00	Do.
Do	Silver 5-sen	47,341.46	1,092,445	43,335	43.333	.050	800.14	800.00	Do.
November, 1875	Gold 5-yen	2,527.96	9,435	267.934	267.916	.075	900.04	900.00	Do.
Do	Silver trade-dollar	14,471.17	16,545	875.184	875.000	2.083	900.37	900.00	Do.
Do	Silver 10-sen	140,670.63	1,623,099	86.668	86.666	.050	800.12	800.00	Do.
Do	Silver 5-sen	17,388.84	401,272	43.334	43.333	.050	800.23	800.00	Do.
December, 1875	Gold 20-yen	35.38	33	.....	.....	.....	900.10	900.00	Do.
Do	Gold 10-yen	26.79	50	.....	.....	.....	900.00	900.00	Do.
Do	Gold 5-yen	808.09	3,016	267.934	267.916	.075	900.03	900.00	Do.
Do	Gold 2-yen	4.29	40	.....	.....	.....	900.20	900.00	Do.
Do	Gold 1-yen	2.14	40	.....	.....	.....	900.00	900.00	Do.
Do	Silver trade-dollar	16,517.41	18,872	875.234	875.000	2.083	900.13	900.00	Do.
Do	Silver 50-sen	21.67	50	.....	.....	.....	799.80	800.00	Do.
Do	Silver 20-sen	8.67	50	.....	.....	.....	800.50	800.00	Do.
Do	Silver 10-sen	167,615.02	1,933,890	86.672	86.666	.050	800.13	800.00	Do.
Do	Silver 5-sen	24,297.88	560,573	43.345	43.333	.050	800.23	800.00	Do.
January, 1876	Gold 20-yen	54.69	51	.....	.....	.....	900.00	900.00	Do.
Do	Gold 10-yen	8.04	15	.....	.....	.....	900.00	900.00	Do.
Do	Gold 5-yen	663.65	2,477	267.925	267.916	.075	900.00	900.00	Do.
Do	Gold 1-yen	7.46	139	.....	.....	.....	900.20	900.00	Do.
Do	Silver 50-sen	66.25	153	.....	.....	.....	799.50	800.00	Do.
Do	Silver 20-sen	27,464.62	158,448	173.335	173.333	.100	800.14	800.00	Do.
Do	Silver 10-sen	61,988.65	715,235	86.663	86.666	.050	799.95	800.00	Do.
Do	Silver 5-sen	13,692.98	315,950	43.339	43.333	.050	800.55	800.00	Do.
February, 1876	Gold 5-yen	611.14	2,281	267.926	267.916	.075	900.00	900.00	Do.
Do	Silver trade-dollar	29,894.17	34,160	875.124	875.000	2.083	900.23	900.00	Do.
Do	Silver 20-sen	39,724.66	229,178	173.335	173.333	.100	799.65	800.00	Do.

TABLE 1.—*Table showing the weight, number, average weight and fineness of the gold and silver coins certified to be fit for issue and delivered from the operative department during each month*—Continued.

Date.	Denomination.	Weight.	Number.	Weight per 1,000 pieces.	Standard weight per 1,000 pieces.	Permitted deviation.	Average fineness.	Standard fineness.	Legal remedy of fineness.
		Troy oz.		*Troy oz.*	*Troy oz.*	*Troy oz.*			
February, 1876	Silver 10-sen	62,961.84	726,462	86.669	86.666	.050	800.20	800.00	2 per mills.
Do	Silver 5-sen	32,616.17	752,609	43.337	43.333	.050	800.09	800.00	Do.
March, 1876	Gold 5-yen	5,176.65	19,321	267.929	267.916	.075	900.02	900.00	Do.
Do	Silver trade-dollar	21,218.25	24,248	875.052	875.000	2.083	900.32	900.00	Do.
Do	Silver 10-sen	40,231.06	464,236	86.661	86.666	.050	799.91	800.00	Do.
Do	Silver 5-sen	74,537.78	1,719,853	43.340	43.333	.050	800.14	800.00	Do.
April, 1876	Gold 5-yen	3,421.12	12,769	267.924	267.916	.075	900.07	900.00	Do.
Do	Silver trade-dollar	5,950.10	6,800	875.015	875.000	2.083	900.32	900.00	Do.
Do	Silver 50-sen	476.66	1,100	433.327	433.333	.150	799.90	800.00	Do.
Do	Silver 10-sen	83,017.07	957,970	86.659	86.666	.050	799.88	800.00	Do.
Do	Silver 5-sen	41,406.36	955,305	43.344	43.333	.050	800.09	800.00	Do.
May, 1876	Gold 5-yen	1,853.49	6,918	267.923	267.916	.075	900.04	900.00	Do.
Do	Silver 20 sen	68,579.86	395,684	173.320	173.333	.100	800.44	800.00	Do.
Do	Silver 10-sen	72,298.54	834,051	86.672	86.666	.050	799.92	800.00	Do.
Do	Silver 5-sen	40,373.67	931,567	43.340	43.333	.050	800.18	800.0	Do.
June, 1876	Gold 5-yen	3,927.52	14,659	267.926	267.916	.075	900.04	900.00	Do.
Do	Silver 20-sen	121,756.36	702,463	173.327	173.333	.100	800.27	800.00	Do.
Do	Silver 10-sen	104,772.90	1,209,107	86.660	86.666	.050	800.16	800.00	Do.
Do	Silver 5-sen	36,864.22	850,771	43.330	43.333	.050	799.93	800.00	Do.

TABLE II.—*An account of the gold and silver coins produced from August 16, 1875, to June 30, 1876, being a summary of Table I.*

Denomination.	Weight.	Number.	Weight per 1,000 pieces.	Standard weight per 1,000 pieces.	Permitted deviation.	Average weight per piece.	Standard weight per piece.	Permitted deviation.	Average fineness.	Standard fineness.	Legal remedy of fineness.
	Troy oz.		*Troy oz.*	*Troy oz.*	*Troy oz.*	*Grains.*	*Grains.*	*Grains.*			
Gold 20-yen	90.05	84	.....	.....	.....	514.571	514.41	.50	900.05	900.00	2 per mille.
Gold 10-yen	34.83	65	.....	.....	.....	257.206	257.20	.50	900.00	900.00	Do.
Gold 5-yen	20,317.21	75,831	267.927	267.916	.075	128.605	128.60	.50	900.05	900.00	Do.
Gold 2-yen	4.29	40	.....	.....	.....	51.480	51.44	.25	900.20	900.00	Do.
Gold 1-yen	9.60	179	.....	.....	.....	25.753	25.72	.25	900.10	900.00	Do.
Silver trade-dollar	108,904.82	124,445	875.124	875.000	2.083	420.060	420.00	1.00	900.29	900.00	Do.
Silver 50-sen	564.58	1,303	433.292	433.333	.150	.....	.....	.....	799.78	800.00	Do.
Silver 20-sen	269,967.04	1,557,565	173.326	173.333	.100	.....	.....	.....	800.29	800.00	Do.
Silver 10-sen	958,858.94	11,063,555	86.668	86.666	.050	.....	.....	.....	800.02	800.00	Do.
Silver 5-sen	364,096.45	8,401,447	43.337	43.333	.050	.....	.....	.....	800.18	800.00	Do.

TABLE III.—*An account of the copper coins produced from August 16, 1875, to June 30, 1876.*

Denomination.	Weight.	Number.	Number of coins in one pound avoirdupois.	Standard number of coins in one pound avoirdupois.	Actual deviation in grains per pound.	Permitted deviation in grains per pound.
	Troy oz.					
Copper 2-sen	8,921,128.84	19,466,641	31.82	31.81	.88	24
Copper 1-sen	9,166,138.15	41,744,559	63.64	63.63	.33	24
Copper ½-sen	3,005,657.60	26,232,692	127.28	127.27	.38	24
Copper 1-rin	6,473.20	223,190	502.82	500.00	39.48	24

Attention may be called to an appendix to the commissioner's report, where the result of independent assays of the same coins, made in the English, American, and Japanese mints, are shown side by side. In comparing the work of different assay-offices, any small variation in the mean results would most likely arise from the degrees of purity of the fine gold and silver used as checks, any impurity in which would, unless allowed for in calculating results, raise the standard of the assays made to a corresponding extent. Of late years great care has been taken in the preparation of the fine gold, that used for this purpose probably not containing more than from one to two ten-thousandths of impurity. It would appear that an equal attention has not yet been given to the silver, and, in consequence, assays of this metal are still reported from one-third to one-half per mille too high.

In the assay-office the gold and silver have been determined in 507 ingots (derived either from the old coinage or the produce of Japanese mines) previous to the separation of these metals in the mint refinery.

Of the bullion accepted for coinage, the average standard is given in the following table:

Nature of bullion.	Ingots accepted.	Ingots rejected.	Average standard of those accepted.
Premelted ingots—gold	131	9	995.41
Premelted ingots—silver	343	99	991.50
Refined ingots—gold	6	.....	997.62
Refined ingots—silver	1,041	.....	990.21

In addition to the above bullion imported for coinage, 178 500-ounce ingots of refined gold have been melted and assayed. The standard of these ranged from a few tenth-millions above to as much below 998.

Check dip assays from the alloyed metal before pouring into coinage bars have been made from 46 gold and from 1,288 silver pots.

It may be mentioned that in no case has any error been detected in the alloying or previous assay. Individual assays of the coins struck have been made daily. The following table gives the average result for the year:

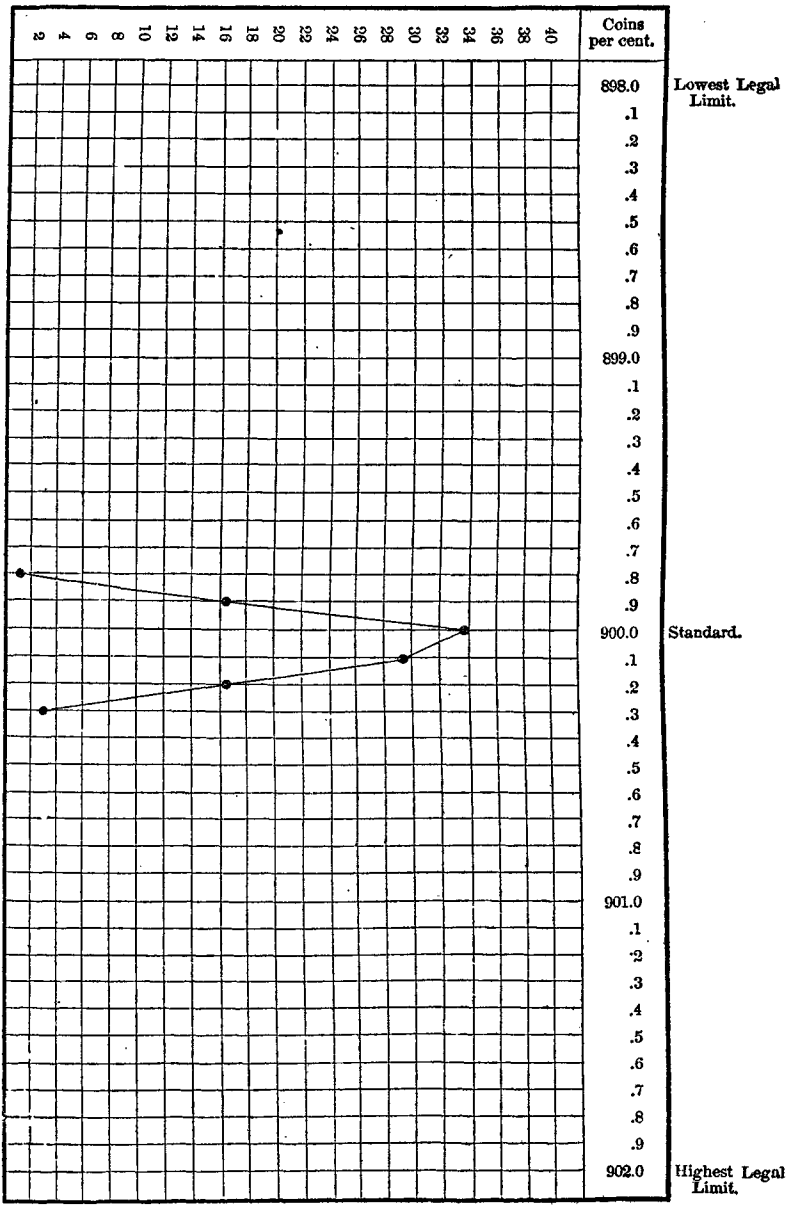
Average standard of coins.

Denomination.	Number of assays.	Average standard.
Gold 20-yen	2	900.05
10-yen	1	900.00
5-yen	68	900.05
2-yen	2	900.20
1-yen	2	900.10
Silver trade-dollar	119	900.29
50-sen	4	799.78
20-sen	145	800.29
10-sen	474	800.02
5-sen	465	800.18

Altogether, including check assays and repetitions, nearly ten thousand assays have been made in this office during the time covered by this report.

The annexed curve has been drawn up to show graphically the small variation from the absolute standard of the gold 5-yen coins struck

during the year. One coin has been assayed from every thousand struck, and the extreme will be seen to be 899.8 and 900.3.



Curve showing the variation in standard of the gold 5-yen, from August 16, 1875, to June 30, 1876.

The work of the chemical and metallurgical laboratory has consisted chiefly of analyses and examinations of copper, bronze, coinage-bars, refractory clays, fire-bricks, and Japanese zinc.

Ninety-seven samples of unrefined Japanese copper have been exam-

ined, a synopsis of the results for the contaminating metals, arsenic and antimony, being given in the following table:

	Arsenic.			Antimony.	
	Absent.	Present in traces.	Present from .045 to .128 per cent.	Absent.	Present in traces.
Number of samples..	27	45	25	84	13

As last year, the samples of impure "kaolin" used in the mint as fire-clay and for the manufacture of fire-bricks have been found—within certain limits—to be refractory according to the percentage of coarse fragments of chalcedony contained in them.

Fire-bricks made from these clays have been extensively used during the year in lining crucible and other furnaces, underground flues, &c. The consumption of English fire-bricks has been proportionately diminished.

Four kinds of the old Japanese copper money (zeni) have been analyzed, and their composition found to be as under. Each analysis represents the average composition of a sample of six hundred or seven hundred ounces of each kind of coins. At first analyses of single coins were commenced, but the variation in composition of individual pieces ranging between very wide limits, it was found necessary, in order to obtain reliable results, to melt samples of the above weights, with special precautions against loss by oxidation or volatilization, and to take from the molten samples in each case representative samples for analysis.

	Do Zeni. ("Old Cash.")	Shimon Zeni. ("Brass Cash.")	Bunkiyu Zeni. ("Newer Cash.")	Tempo Zeni. ("Tempo.")
Copper	77.305	75.617	83.107	81.307
Tin	4.319	.728	3.217	8.261
Lead	15.330	2.852	11.227	9.742
Iron	1.012	1.761	.269	.056
Arsenic	1.137	1.988	1.500	.182
Antimony	.305	.139	.489	.035
Silver	.060	.016	.060	.037
Sulphur	.522	.087	.387	.084
Zinc		16.545		.193
Gold	Trace.	Trace.	Trace.	Trace.
	99.990	99.733	100.256	90.897

In three cases the amount of arsenic and antimony present will be seen to be somewhat alarmingly great; this is not, however, due, as might at first be conjectured, to their presence in the copper with which the alloys were made, but has arisen from the intentional addition of "shirome," a metallurgical by-product consisting chiefly of copper, lead, arsenic, and antimony.

This "shirome," which is obtained in the process of separating silver from copper by means of lead, accumulates in the sloping spout-like front of the Japanese liquation furnace, and is now often made use of in the preparation of bronze articles, being added to the ordinary alloy in order to increase its hardness.

The amount melted in this department is shown in the following table:

Description of metal.	Ounces troy.	Loss per mille in melting.
GOLD.		
Premelted into ingots	13,432.90	0.607
Melted into coinage-bars	59,986.20	0.194
SILVER.		
Premelted into ingots	402,900.82	3.557
Melted into 900 standard coinage-bars	313,896.49	0.963
Melted into 800 standard coinage-bars	2,722,134.60	1.055

Of the premelted gold 660.35 ounces, not coming up to the required standard, were rejected; 93,489.95 ounces of premelted silver were rejected. This includes 67,978.89 ounces of sycee melted in June. From the inscription on the "shoes," it would appear that the greater part were cast during the reign of the last two Chinese emperors. Notwithstanding this late date, they all contained from 2.0 to 2.2 per mil of gold. The silver ranged from 978 to 986 per mil.

Much difficulty has been caused in former years by silver, which, though perfectly malleable after premelting, became brittle after alloying with copper.

To avoid this, a small sample has been taken from each importation, alloyed with copper and tested for malleability; when these samples proved brittle the corresponding ingots have been rejected. No brittle coinage-bars have been cast since this precaution has been taken.

While brittleness may be developed in silver on alloying, on the other hand, brittle silver may be rendered malleable on the addition of copper. A good instance of this occurred this year. An ingot of refined silver, the assay-cutting from which crumbled to pieces under the hammer, produced perfectly malleable coinage-bars.

In the copper-refining department 804½ tons of Japanese copper have been treated.

Some account of the contaminating substances present in the unrefined metal will be found in the paragraphs relating to the chemical and metallurgical laboratory. An excessive proportion of sulphur has occasionally disturbed the regularity of furnace-work; in other respects the general character of the metal calls for no special remark.

During the year, 39,606,965.73 ounces of metal have been melted, and 39,457,180 ounces (nearly 1,208 tons) of coinage-bars produced; of these, the reverberatory furnace completed last autumn has supplied 3,858,930 ounces.

On account of the successful results obtained with this furnace, the melting arrangements of the department have been entirely re-organized. The erection of two additional similar furnaces has been advised, one of which is completed and now ready for work. And although, on account of the want of available space in the present melting-rooms, the arrangements are scarcely so perfect as could be wished, yet great economy in the cost of production of coinage-bars will result; plumbago crucibles will not be required except on special occasions; coke not being used, the expenses of coking will no longer be incurred, and a considerable reduction in the total consumption of coal per ton of metal melted will be effected.

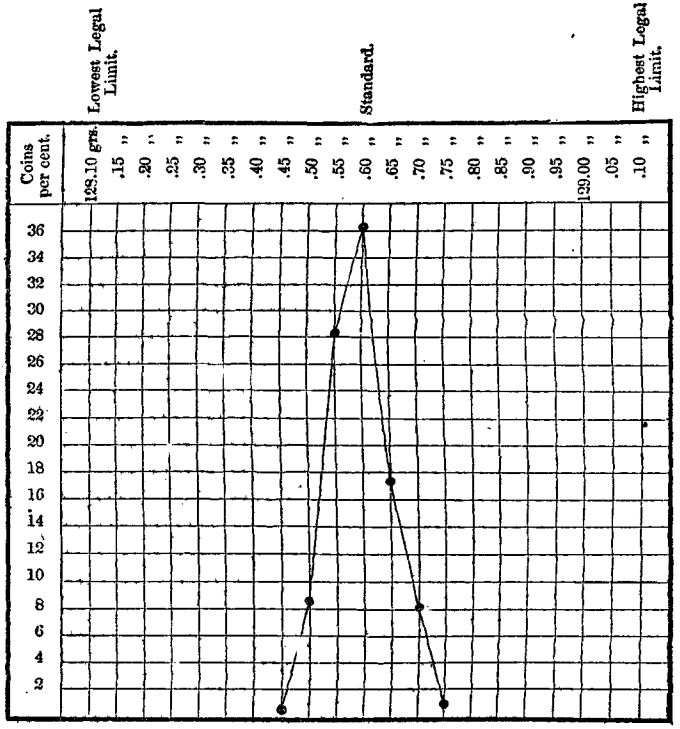
The rolling department has been found equal to the increased demand made upon it, blanks of all denominations having been supplied with regularity and without delay.

In addition to a machine for adjusting the weights of gold blanks, there has been added to the weighing department an extremely sensitive balance for the more accurate weighing of separate thousands of the standard coins.

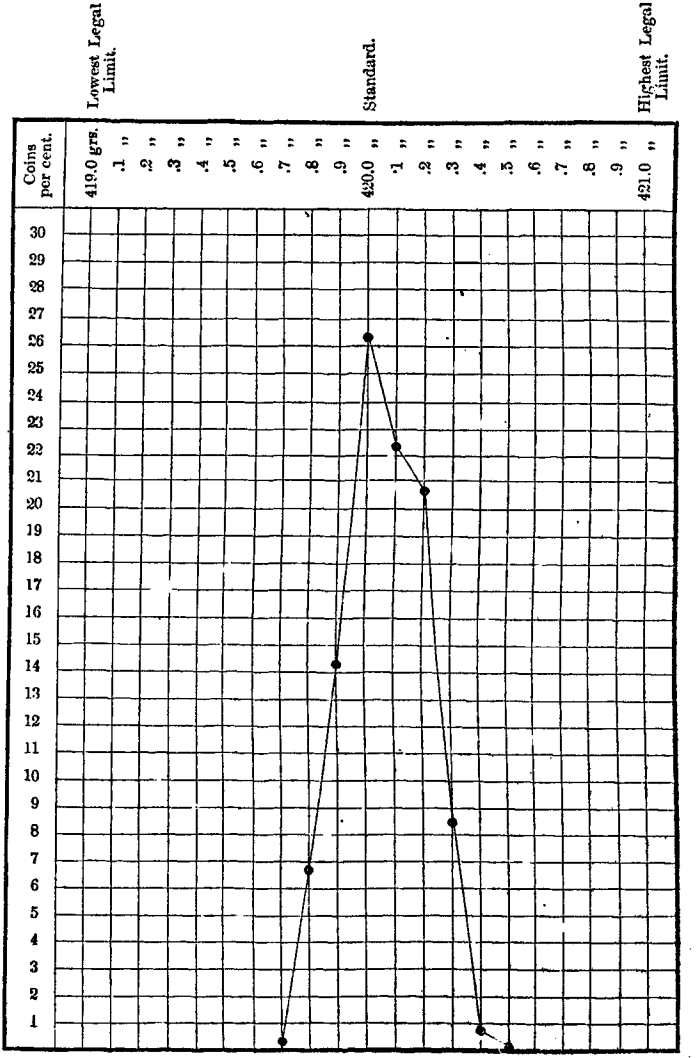
The careful manner in which the work of the department has been conducted, as well as the accurate weighing of the automaton balances, is evidenced by the accompanying curves representing the individual weighings (by hand) of 5-yen and trade-dollar coins, indiscriminately selected from each delivery to the bullion-office.

Seven hundred and sixty-seven 5-yen and 934 trade-dollar coins were weighed in the respective cases.

Curve showing the variation in weight of the gold 5-yen, from August 16, 1875, to June 30, 1876.



Curve showing the variation in weight of the silver trade-dollar, from August 16, 1875, to June 30, 1876.



The whole of the coining-presses have worked without intermission daily. A new coining press has been added to the copper department.

Besides the ordinary routine duties of this department, a considerable amount of additional work has been undertaken and performed. The changes made in the mode of working the copper-melting department having increased greatly the consumption of wrought-iron ladles, a small reheating-furnace has been built and the erection of a steam-hammer recommended, so that in future all such articles will be made on

the premises from the waste scrap-iron which has accumulated since the commencement of the mint.

The waste steel which has also similarly accumulated is being utilized, two steel-melting furnaces having been built for the production of bars from which the various steel tools and coining appliances required in the mint are now made. A new wrought-iron cupola is nearly completed. A coining-press has been constructed for the copper-coining room, and a machine for adjusting the weights of 5-yen blanks for the weighing department.

The engines have worked with the greatest regularity and without accident throughout the year.

The following dies have been produced:

For gold coins	65
For silver coins	851
For copper coins	3,149

We have the honor to be, sir, your obedient servants,

EDWARD DILLON, B. A.,
Associate of the Royal School of Mines.
WILLIAM GOWLAND, F. C. S.,
Associate of the Royal School of Mines.

The Commissioner of the Imperial Mint.

THE MINT, *June* 30, 1876.

A.

Trial of pyx for the coins selected from the eighth month of the eighth year, (August, 1875,) to the sixth month of the ninth year of Meiji, (June, 1876.)

On the 26th day of the sixth month, (26th June,) by order of his excellency the minister of finance, Mr. J. Z. Go, the daijio of the okura shô and chief commissioner of public-debt department, with the commissioner and other officers of the mint, assembled at the mint for the purpose of testing the coinage for the year ending the 30th of the sixth month of the ninth year of Meiji, (30th June, 1876.)

The following coins, being indiscriminately selected by Mr. Go from the pyx pieces, were then weighed singly:

No.	Denomination.	Date of coinage.	Weight.	Standard weight.	Deviation allowed.
			Grains.	*Grains.*	*Grains.*
1	5-yen	Aug. 25, 1875	128.66	128.60	0.5
2	5-yen	Sept. 21, 1875	128.60	128.60	0.5
3	5-yen	Jan. 26, 1876	128.53	128.60	0.5
4	5-yen	Mar. 22, 1876	128.64	128.60	0.5
5	5-yen	Apr. 15, 1876	128.52	128.60	0.5
6	5-yen	June 26, 1876	128.60	128.60	0.5
1	Trade-dollar	Sept. 7, 1875	420.24	420.00	1.0
2	Trade-dollar	Dec. 24, 1875	420.16	420.00	1.0
3	Trade-dollar	Mar. 8, 1876	419.85	420.00	1.0

The following were then weighed collectively:

Denomination.	Number.	Weight.	Weight per 1,000.
5-yen	67	17.95 oz.	267.91
Trade-dollar	25	21.879 oz.	875.16
20-sen	500	86.696 oz.	173.39
10-sen	1,000	86.705 oz.	.....
5-sen	1,000	43.297 oz.	.....
50-sen	3	623.10 grs.	432.666

Sixty-seven pieces of 5-yen were melted and cast into a bar and four assay-pieces were cut from the bar.

Twenty-five trade-dollars, 3 50-sen, 500 20-sen, and 1,000 each of 10 and 5 sen were melted, respectively, dip-assay taken, and divided into four equal parts.

The following copper-coins were then tested as to weight, with the following results:

Denomination.	Number.	Weight.	Calculated number per pound avoirdupois.
		Grains.	
2-sen	32	7,025.0	31.886
1-sen	64	7,038.5	63.649
½-sen	127	7,002.5	126.957

All remaining packets of trial-pieces, (45 in number,) to be sent to the finance department or to be reserved at the mint, were sealed up before the inspecting officials.

Each one of the four respective assay-pieces above mentioned was assayed by Mr. E. Dillon, who reports the results of his assays as follows:

B.

ASSAY OFFICE, *June* 26, 1876.

To the Commissioner:

SIR: I have individually assayed the 5-yen and trade-dollar coins selected by Mr. Go from the pyx pieces that had accumulated during the financial year 1875–1876.

I have also melted all the remaining trade-dollar and 5-yen pyx pieces, and all the 50-sen pyx pieces, and five hundred coins selected from the 20-sen and one thousand each from the 10 and 5 sen pyx pieces. A sample from each denomination of coin melted has been assayed by me. In every case the result of my assay has proved the coins to be within the remedy allowed by the mint-regulations.

Coins individually assayed.

No.	Denomination of coins.	Date when issued.	Standard.
1	Gold 5-yen	Aug. 25, 1875	900.1
2	....do	Sept. 21, 1875	899.9
3	....do	Jan. 26, 1876	900.3
4	....do	Mar. 22, 1876	900.0
5	....do	Apr. 15, 1876	900.1
6	....do	June 26, 1876	900.1
1	Trade-dollar	Sept. 7, 1875	899.2
2	....do	Dec. 24, 1875	900.1
3	....do	Mar. 8, 1876	900.1

Assays from "dips" or cuttings after melting.

Gold 5-yen bar	899.9
Silver trade-dollar	900.1
Silver 50-sen	799.9
Silver 20-sen	799.8
Silver 10-sen	800.5
Silver 5-sen	800.2

Each of the individual coins, as well as the dips and cuttings, was divided into four parts, three of which were separately sealed up in packets and delivered to you for transmission to Tokei. From the fourth part, the above assays were made.

I have the honor to remain, your obedient servant,

E. DILLON,
Assayer.

Report of Mr. J. Z. Go, daijio of the okura sho and chief commissioner of the public debt department, on the annual assay held at the imperial mint, on the 26th of 6th month of 9th year of Meiji, (26th June, 1876.)

7TH MONTH OF 9TH YEAR OF MEIJI.

YOUR EXCELLENCY: I have the honor to submit to your excellency this report on the meeting held for the "trial" of the pyx coins struck during the year ending the 30th of 6th month of this year, held at the imperial mint, over which I had the honor to represent your excellency, in compliance with your excellency's special instructions, which I received on the point of leaving for Osaka, Kioto, and Kokura, with a commission also under your excellency's orders.

On my arrival at Osaka, on the 23d of 6th month of this year, I made an arrangement with Mr. T. Ishimal, commissioner of the imperial mint, for the purpose of holding the said meeting on the 26th of 6th month, in conformity with the regulations established.

It commenced at 9.50 a. m. on the said day, and consisted of the following officials, viz:

Mr. T. Ishimal, commissioner.
Mr. H. Hasegawa, assistant commissioner.
Mr. Y. Kuze, superintendent of refinery.
Mr. N. Ohno, superintendent of bullion-office.
Mr. T. Hasegawa, accountant of assay-office.
Mr. H. Toyohara, superintendent of die-department and sulphuric-acid works.
Mr. E. Dillon, B. A., assayer.
Mr. W. Gowland, F. C. S., chemist and metallurgist, &c.

The "trial" ended at 4 p. m. The commissioner then handed over his report (A*) with the report (B†) of the assayer, both of which accompany this, and explain faithfully what in fact has been done. He also forwarded thirty sealed packets of "trial pieces," accompanied by a list, which I have now the honor to lay before your excellency.

These pieces of "trial" will be sent to London and Washington.

The above is the result of the proceedings of the "trial" held at the mint on the 26th of 6th month, carried out, under your excellency's instruction, by myself and the officials above mentioned.

I have the honor to be, your excellency's most obedient servant,

J. Z. GO,
Daijio of the Okura Shô and Chief Commissioner of Public-Debt Department.

His Excellency SANGI OKUMA SHIGENOBU,
Minister of Finance.

---

* See p. 378. † See p. 379.

Report on the analysis and examination of the nitric acid manufactured at the sulphuric-acid works.

THE IMPERIAL MINT,
Osaka, November 30, 1875.

DEAR SIR: I beg to inform you that I have examined the sample of nitric acid manufactured at the works of the imperial mint, and have much pleasure in reporting as follows:

The sample, representing the contents of twelve carboys, was perfectly colorless.

Specific gravity at 60° F	1.379
Sulphuric acid ($S O_3$)	.165 per cent.
Residue after ignition	.029 per cent.
Chlorine	Faint trace.

The specific gravity indicates the highest degree of concentration compatible with the least tendency to decomposition; its strength is therefore specially adapted for use in the East, or wherever the summer temperature is high, while, at the same time, it is sufficiently concentrated for almost all technical purposes.

The percentage of sulphuric acid present is small for commercial nitric acid, and the total solid residue amounts only to a trace. It is practically free from chlorine.

Briefly I may state that I consider the acid to be of the most suitable strength for use in tropical or subtropical climates, and to be fit for almost any purpose for which commercial nitric acid is applicable.

I am, dear sir, yours, very faithfully,

W. GOWLAND, F. C. S.,
Associate of the Royal School of Mines.

T. ISHIMAL, Esq.,
Commissioner of the Mint.

The following are copies of the assay reports made by the assayers of the English and American mints, on the pyx pieces of the trial coins for the last half year, sent by the okura shô to the said mints, by the ministers of Japan resident in those countries:

THE MINT OF THE UNITED STATES AT PHILADELPHIA,
ASSAY DEPARTMENT,
November 9, 1875.

SIR: The following is the result of assays of samples of Japanese gold and silver coin, as requested by the Department of State, through the Director of the Mint. I set down the assays of the mint of Japan, as well as the assays made here, for the sake of comparison:

GOLD.

	Japan assay.	United States assay.
5-yen, (single piece)	899.8	900.0
5-yen, (another)	900.1	900.3
Do	900.3	900.4
Quantity melted together	900.05	900.1

SILVER.

	Japan assay.	United States assay.
Silver yen	900.6	900.6
Do	900.4	900.4
Another	900.0	900.2
Trade-dollar	900.0	900.4
Another	900.4	900.4
Do	900.3	900.8
Silver yen—quantity melted	900.6	900.4
Trade-dollar—quantity melted	900.2	900.6
20-sen pieces—quantity melted	799.9	799.2
10-sen pieces—quantity melted	800.7	800.0
5-sen pieces—quantity melted	800.1	800.6

We consider the correspondence very satisfactory. Herewith we return the slips of gold and silver not used.

The ductility of the metals is worthy of remark.

Very respectfully,

WM. E. DU BOIS,
Assayer.

Hon. JAMES POLLOCK,
Superintendent, &c.

Assay reports on portions of "pyx" coins and pieces from "test ingots" sent from the imperial mint of Japan.

No. of assay.	Denomination.	Japanese mint assay.	Royal mint assay.
	GOLD.		
2	5-yen coin	899.8	899.9
3	5-yen coin	900.1	900.1
4	5-yen coin	900.3	900.1
1	5-yen bar	900.05	900.0
	Mean	900.06	900.02
	SILVER.		
5	1-yen coin	900.6	900.1
11	1-yen coin	900.4	900.9
12	1-yen coin	900.0	900.0
13	Trade-dollar	900.0	900.2
14	Trade-dollar	900.4	900.0
15	Trade-dollar	900.3	900.4
10	Yen dip	900.6	900.8
9	Trade-dollar dip	900.2	900.9
6	20-sen dip	799.9	798.9
7	10-sen dip	800.7	800.9
8	5-sen dip	800.1	800.3
	Mean	900.3 800.2	900.4 800.0

WM. CHANDLER ROBERTS,
Chemist and Assayer of the Mint.

ROYAL MINT, LONDON, *January* 3, 1876.

MEXICO.

A.—Mr. Foster to Mr. Fish.
A 1.—Reply of Mr. Richardson to interrogatories B of commission.
B.—Mr. Foster to Mr. Fish.
B 1.—Reply of master of mint to inquiries expressed in act of Congress authorizing the commission.
C.—Speech of Citizen Romero Matias in the Senate of Mexico.
D 1 to 11.—Circulars of Treasury Department.

A.

LEGATION OF THE UNITED STATES,
Mexico, December 1, 1876.

SIR: In reply to your circular of September 18, 1876, addressed to Mr. Richardson, as chargé d'affaires *ad interim*, inclosing interrogatories on behalf of the United States Monetary Commission, I now transmit the answer prepared and signed by Mr. Richardson, who has given considerable attention to the subject.

It is to be regretted that the answers to some of the interrogatories are not more full and explicit; but in the disturbed state of the country, with the change of government that has recently occurred, and the impossibility or great difficulty of obtaining statistics, they could not be made more complete. The same causes have also operated to delay this reply.

I am, &c.,

JOHN W. FOSTER.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

[Inclosure.]

Mr. Richardson's answers to interrogatories of the Monetary Commission.

A 1.

Answers to interrogatories addressed to the representatives of the United States in foreign countries in regard to the silver question.

1. No change has taken place in the relative value of gold and silver in this country during the past fifteen or twenty years.

2. (A.) The average annual production of silver in Mexico is officially reported at $19,554,483.77;* of gold, $939,356.30; and as there have been no fluctuations in the relative value of these metals. The average yearly amount of pure silver produced is worth in pure gold $18,369,363.55, basing the calculation on the fixed relative value, which is 1 to 16.5.

(B.) Both gold and silver are standards of value in this country, and debts of the largest sums can be discharged in either, unless it was stipulated to pay in gold.

* This estimate is low. Reliable authorities of this city give the annual production of silver at between twenty-two and twenty-three millions.

(C.) It is impossible to state or even to approximate the amount of gold and silver bullion existing in this country or the amount of coin in circulation. All bullion delivered at the mint is coined.

(D.) Cannot be ascertained.

(E) There is no national bank in Mexico, nor are there any legal-tender notes. The Bank of London, Mexico, and South America has notes in circulation to the extent of $1,500,000, which are admitted in all kinds of mercantile transactions, being convertible in favor of the holder into coined silver money for their full value.

(F.) The total value of the mining product of gold and silver from the year 1800 up to 1875 has been as follows:

Colonial period.	Silver.	Gold.	Copper.	Total.
Up to 1821	$350, 194, 722 06	$18, 143, 367 00	.....	$368, 338, 089 06
Republic, from 1822 to 1875	786, 549, 161 86	4, 420, 877 65	$5, 301, 072 29	836. 059, 112 80
	1, 136. 743, 883 92	22, 564, 244 65	5, 301, 072 29	1, 204, 397, 201 86
Annual average	15, 156, 585 13	.....	70, 680 96	16, 053, 629 35
Average for past five years	19, 554, 483 79	939, 356 30	16, 548 40	20, 510, 388 47

3. The relative values of gold and silver have not changed, but the price of these articles has been influenced by their demand in foreign markets, both being articles of export.

4 and 5. The previous answer is applicable to these two questions.

6. The charges on the coinage of silver are 4.41 per cent.; upon gold 4.62 per cent. There is no limit to coinage. The government monopolizes the coinage, but sometimes the mints are rented to private individuals. There are eleven mints in the republic, all of which are at the present time in private hands under contract with the government. The coins of other countries are permitted to be imported and are free of all duties. To a certain extent the gold coins of England, France, and the United States are legal tender; but as they command a premium in Mexican silver, they are never used in payments. Gold and silver coins are manufactured for exportation. A certain number of spurious coins are in circulation, but it is impossible to estimate their amount.

7. There is no bullion imported into Mexico, and only small quantities of coin.

The exports of silver in 1873 amounted to $24,115,110.27. The exportation of gold for the same year was $937,847.18; of other metals, $320,-714.33. Silver pays an export duty of 5 per cent.; gold, 1½ per cent.

8. The mining of the precious metals is regulated by the mining laws of the country, a copy of which is inclosed, together with a collection of ordinances dating from 1867 to 1876. Any person announcing or discovering unoccupied mineral territory may occupy and work three *pertenencias*. The *pertenencia* is 200 by 100 *varas* or yards. The discoverer on a vein already worked, or in a known mineral mountain, is entitled to two *pertenencias*.

The following table shows the various duties paid by silver. It is impossible to estimate to what extent they are evaded.

Statement of the charges on silver produced in the mines near Mexico City, (say in the Real del Monte district,) from the mine to the Bank of England.

	Per cent.
Freight from mine to mint of Mexico	.75
Charge for converting bars into dollars, which is made whether bars are coined or not, (charge, 4.41 per cent.)	4.50
Further charges for assay, municipal duties, loss on silver in bad minting	1.00

	Per cent.
Agent's commission in Mexico	.25
Boxes, packing, and petty charges, including stamps, &c	.12½
Freight from Mexico to deck of steamers	.50
Export-duty	5.00
Ship-freight to London	.50
Insurance, Mexico to London	.62½
Agent's commission in London, (¼ to 1 per cent.)	.25
Minimum charge on bars exported from this district	13.50
To which must be added, as further charge on bars from the interior, a circulation duty charged by certain states, in some 1½ per cent., in one up to 1⅝ per cent., and another freight, costing from ½ to 1 per cent., say an average of	2.00
Average charge on bars from interior	15.50

The above does not include local taxes on mines or reduction-works.

Gold pays only one-half* per cent. export-duty. Bars, part gold and silver, are subject to very high charges for separating, if that is done in Mexican mints. As this charge varies with the percentage of gold, it is impossible to estimate the exact loss to the Mexican miner, but it is heavy. If done in England or Germany, the miner loses the expense of sending it, insurance, &c., and at least three months' interest.

The Mexican mints only separate gold when it contains sixteen grains of gold per mark (eight ounces) of silver. In England above four grains is extracted. Some Mexican mints are not provided with the means of separating gold and silver. In consequence they mint dollars that contain gold. Guadalajara and Durango dollars are about two per cent. better for export than Mexico or Guanajuato dollars on this account. Oaxaca dollars, four per cent. better.

	Per cent.
Charges on silver brought over	15.50
As most Mexican silver contains gold, for reasons given above, one must estimate the loss on the whole production of the precious metals at at least	3.00
Estimated loss on production, between duties collected and heavy mint charges, &c., without taking local taxes into account	18.50

9. Most of the replies given were obtained from the treasury department of the government. Hon. Matias Romero, formerly minister of the treasury and representative of the Mexican government in Washington, and one of the best informed gentlemen in the republic on these subjects, has also assisted in answering the inquiries of the committee.

D. S. RICHARDSON.

MEXICO, *December* 1, 1876.

NOTE.—Every effort has been made to secure answers to the questions addressed to the chief officers of the mints of this country, but owing to the disturbed condition of the republic, no returns whatever have been made, and this report has necessarily to be sent on without them.

B.

LEGATION OF THE UNITED STATES,
Mexico, December 11, 1876.

SIR: Referring to my No. 468, of the 1st instant, transmitting the answers to the questions propounded by the United States Monetary

*Above it says 1½ per cent. The discrepancy cannot be reconciled.

Commission, I now inclose the report asked for from the mint of this city, which report I have just received. Owing to the pressure of time to forward in the next steamer, I do not delay it for copy and translation.

I am, sir, very respectfully, your obedient servant,

JOHN W. FOSTER.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

[The following replies from the master of the mint of Mexico, instead of being made, as requested, to the interrogatories in circular C of the commission, are made by mistake to the inquiries embraced in the act of Congress authorizing the commission, a copy of which act was sent with the interrogatories. The translation, done in Washington, is very rough; but the editor did not consider himself at liberty to alter it.]

[Translation from the Spanish.]

Information from the department of the mint of Mexico, by request of the secretary of foreign relations, (ministro de relaciones,) dated October 19, 1876.

FIRST.—Into the change which has taken place in the relative value of gold and silver: the causes thereof, whether permanent or otherwise; the effects thereof upon trade, commerce, finance, and the productive interests of the country, and upon the standard (of) value in this and foreign countries.

Until the beginning of 1875, the relative value of silver and gold was as "sixteen to one," subject to a very trifling variation. It was natural to be so, as the quantity of both metals produced by the mines of the republic had not suffered any considerable alteration; moreover, until that time, in foreign markets, whither the greatest part of the precious metals of this country are exported, there had been no notable difference in their value from that which prevailed at the time of their exportation.

But after the first weeks of that year the price of silver commenced to decline, and continued declining in consequence of that very important agitation which occurred all over the world under the name "depreciation of silver." It was a kind of alarm and preoccupation all over the civilized world and among philosophers and the people of various nations. It could not be otherwise. Silver is employed in all transactions; it is admitted as representing the value of property in all forms, products of industry, agriculture, and all articles of commerce of daily transactions. Therefore, the decline in the price of silver was to cause a general alteration in intrinsic value, or at least cause a grave perturbation in the value of all articles in which silver had been an element of exchange, and by means of which the value of all things was fixed.

The depreciation of silver being initiated, the relation in the value of silver and gold became subject to all the fluctuations of the value of silver, and therefore in Mexico the maximum of the premium on the normal value of gold was reduced to sixteen per cent. It resulted thus that the relation of the value of silver and gold, which, as I have stated, was of sixteen to one, came to be of $16\frac{56}{100}$ to one; therefore, one thousand pieces of gold denominated "onzas," (ounces,) with their weight of two thousand seven hundred and seven grains, of the standard law of eight hundred seventy-five thousandths, with a legal value of $1,600, came to be worth, with the highest premium as indicated, $1,856, the

dollar weighing 27.073 grains of silver with standard law of 0.90277, it being the monetary unit in Mexico.

Such alteration in the value of silver coin, which principally is used as "type," the standard value, in all transactions, has been evidently the cause of a positive perturbation in all financial and mercantile business in this country in regard to purchase and sale in real estate and national wealth.

Silver being one of the principal products and principal effects as merchandise of exportation, and for the payment or exchange of foreign importation, the reduction in its value by the "depreciation" has been of great influence in the national wealth and in the value of the productions of this country; considering that the uncertainty in the decline of silver was a cause of general want of confidence in business and of a proper precaution among speculators; and a fluctuation was always with prejudice to its true value.

The national treasury and the financial questions are intimately connected with commercial and mercantile transactions; all the avenues of public income are affected by the perturbation and fluctuation in the value of silver.

I am in doubt if what I have heretofore stated is sufficiently explained, but I will take the liberty of giving an explanation to make it clear, should the sense be confused.

The national income in this country, as likewise in all civilized nations, derives principally from customs on importations from foreign countries. The duties are paid in currency, which is silver, and by its depreciation its value is nominal; but moreover the importers, under panic caused by the depreciation of silver, or under the influence of fear of further depreciation, which operates in equal ratio on their merchandise in store, and results in dead loss, limit their importations, and consequently the amount of the income from the customs is reduced.

Out of the national treasury must be paid not only the army and all branches of the administration, the common and superior schools, but also the subsidies by way of encouragement to various industrial and commercial undertakings; therefore, the decline of the price of silver is of much importance, it is often the cause of general disturbance, frequently extending to all classes of those productions which are material and essential elements, and which are intimately connected.

In Mexico two-thirds of the foreign products consumed are paid with silver, and it is therefore evident that a commercial disturbance causing a decline in its value must cause, as really it has caused, great consequences of more gravity in Mexico, where silver is the principal production, than in other countries where they do not depend on it exclusively for exchange.

It is my opinion that the results affecting business in general by the depreciation of silver cannot be of permanent duration, yet it is not possible to show the limits, as the primitive causes are variable; they may continue to be the cause of modifications in the price of the two metals which generally are admitted at monetary "types," (standard value,) and may cause a similar fluctuation in business transactions.

In proof of what I have said, I have only to point to what has occurred within the last six months.

Without any real cause for the variation in the value of silver, the alarm was spread, and then followed the progressive and rapid depreciation of silver. But there was no real cause for such a panic or for the depreciation of that metal.

When it was acknowledged that the depreciation was caused mainly

by the state of panic, and when on examination it became evident that the motives of it were not essentially modified, the alarm was checked, and then gradually the equilibrium, so abruptly interrupted, recovered its ordinary position, and the day is not far when we shall see it in its normal and equitable condition.

It has always been my opinion that the sudden alteration during the past few months on the relative value of gold and silver was not to be permanent. Should the cause of that depreciation come from the extraordinary increase of silver out of the mines, and from the gradual decrease in the amount of gold produced, it would then be a well-founded cause for a lack of equilibrium; but it is not so. During the last thirty years the quantity produced of both metals has been equivalent in proportion; consequently there is no ground of fear that silver will suffer a depreciation to cause an essential and radical alteration, and such as to lessen its actual value in all commercial transactions.

Nevertheless it may occur that the alteration in its value, which has originated from the depreciation and which has increased in so alarming proportions during the past four months, may continue yet for a few years, before reaching again its normal condition; but, in my opinion, such alterations will never exceed the regular limits, in view of the effective causes of their origin and of the immense capitals and diverse uses of silver, which is a precious metal both of difficult and costly acquisition and found only in certain regions of the globe.

SECOND.—Into the policy of the restoration of the double standard in this country; and, if restored, what the legal relation between the two coins, (metals,) silver and gold, should be.

Rejecting "the double type," (tipo doble,) that is, the use of both metals, silver and gold coin, as they have done in Holland and North Germany, we might be obliged to adopt the method of those eminent countries and accept "tipo unico," (unit type,) that is, the use of gold exclusively, as the only coin. But if their motives for so doing were well founded, all other enlightened nations of the globe, namely, the United States and England, would have followed their example by abolishing the "double type." It was not so, nor could it be, because the production of gold would not be sufficient to replace all the joint monetary coins represented at present by silver.

Neither could be initiated the similar methods of other countries, so diverse as are they, in their customs and usages, depending on the conditions incident to their localities, climate, their territorial limits, and their geographical positions.

The production of gold in California was of more gigantic proportions than that of silver from the mines of Nevada, two years ago, and it created an alarm analogous to this, though in a contrary sense.

It was thought then to establish the "unit type," suppressing the circulation of gold coin as it is pretended to suppress at present that of silver.

Many arguments in support of that project were written in 1851 and 1852 by eminent and notable economists, and were published all over the world by most famous statisticians.

It was not thought then that twenty years hence that question would be warmly debated in regard to the advantages and inconveniences of both types, giving priority to the metal which then was not to be used for coin, prognosticating great disaster if that measure was not adopted; but that question was abandoned and the use of the "double type" finally maintained.

The increase in the production of silver has not attained, speaking

respectively, the extraordinary proportions as gold did from 1848 to 1852, and now, with better motives, the question must be resolved in favor of the "double type." This is my opinion, and it is also that of all the nations of America, and of the greatest part of Europe, and of all civilized nations.

On this occasion I consider opportune to quote from an eminent publicist, what he wrote on the subject:

"One of the principal objections to the maintenance of the 'double type' is the extraordinary productions of silver-mines at present explored in the famous tract of Comstock mines, in the State of Nevada. That objection is not acceptable because those mines are explored within an extent of nearly one league by hundreds of companies, of which some are not profitably rewarded, and, however the production of those which are fortunate, yields at an average of 43 per cent. of gold and 57 of silver.

"The unexpected wealth obtained in less than two years from the two silver-mines, 'Consolidated Virginia' and 'California,' situated on the Comstock lode, in Virginia City, have been the pretext for English and American speculators to depreciate silver on the markets of England and of the continent at the time of the accumulation of that metal in those markets. That accumulation was caused by the 'demonetization' in Germany, and, above all, by the decline of commerce with India and Japan."

I will likewise remark that the entire product of the gold and silver mines of the world, which in 1852 yielded $223,000,000, was reduced to $190,000,000 in 1875, notwithstanding the increasing production of the wonderful mines of silver which I have heretofore mentioned.

In regard to fixing the legal relations of the value of both metals after having adopted the "double type," I foresee the inconvenience of altering what the respective legislations of civilized countries have determined in that respect.

From what I have slightly expressed, one perceives that there was a time when, by the rapid increase in the production of gold, the value of that metal was depreciated; one sees, also, that lately the monetary market was alarmed, not so much on account of the increased production of silver, but by the quantity of that metal exported from Germany, &c.; and that was the cause of the variation of its established value, and of the depreciation of silver in its usual proportions, so far that there was a premium of sixteen per cent. in favor of gold.

Under those circumstances, would it be expedient to modify the actual monetary legislation? Would it be prudent to legalize the relative alteration of those two metals, when that alteration is so variable, though without basis or true motive? Evidently no.

Prudence and the necessity of avoiding greater loss than is caused by those transitory alterations, which are at present inclining to their normal state, make it advisable not to make modification in the legal system now established, and which is sanctioned by habit, custom, and law. I believe that course less grave than to introduce any modification sanctioned by law in value already determined by law, for the appreciation of the two metals used in coining, because such value would never be that legally authorized, and would remain subject to the alternative of abundance or scarcity of both metals; as in the various markets of the world, and principally in the great centers of commerce, we have seen quite recently fluctuation in prices of great importance, not from one month to another, neither from one day to another, but very often from one hour to another, and almost instantaneously.

Though I believe unnecessary to confirm that observation, I will remark that on the 5th instant, in Mexico, the premium on gold was at the rate of four and a half per cent., and previously it had been at sixteen per cent., as I have elsewhere stated.

THIRD.—Into the policy of continuing legal-tender notes concurrently with the metallic standards, and the effects thereof upon the labor, industries, and wealth of the country.

The intercourse of men and of the commonwealth in general has become a necessity; it has reached such a degree of extension that it may be called wonderful; it has created mercantile relations, various interests, immense progress, and new and multiplied necessities.

To meet the want of rapid commercial communications, which is so much needed in this age of progress, silver and gold were not adequate to the exigency; it was urgent for effective values to be represented by signs of more simplicity, of easier handling and transport, and to that effect nothing was more convenient than paper currency and bank-notes; but both those species of documents are only elements of exchange, when guaranteed by public opinion, and a full confidence in the Government and in institutions duly authorized for their issuance. These bank-notes must be made payable on demand, and in monetary value, otherwise they would not be admitted and would be subject to great depreciation, as it was the case of the "assignats" of France, whose value came to be less than one per thousand; the same occurred in regard to bonds issued by governments, which being suddenly embarrassed, found it impossible to fulfill their engagements.

It is also the case of banks which have not the sufficient cash to satisfy their engagements when their operations are wrongly combined; for it is understood that the banks never have, nor are bound to have, in cash, the total amount represented in their bank-notes in circulation; otherwise it would be contrary to the fundamental basis of their formation.

The bank-notes which are not in the class of obligatory currency are yet very convenient to mercantile combinations; they are powerful elements of wealth, though sustained only by public confidence, and they are the means of making easier all transactions by extending the development of agriculture, commerce, industry, &c.

Bank-notes representing ready cash are equivalent to gold and silver; therefore, I see no reason why their circulation should not be protected when they are sufficiently guaranteed by a proper amount of metallic currency or bullion; but the objection I see to the issuance of fractional paper currency is that it is naturally subject to material deterioration, and that it generally circulates among a certain class of poor people deserving a special consideration.

In my opinion, the fractional currency ought to be in metal, and that which at present circulates in paper, as in various nations, ought to be redeemed as it is by the illustrious Government of the great nation of the United States of America, which at present is replacing it gradually by silver coin, and will continue doing until the whole is redeemed.

In regard to well-founded observations originating in the increased production of silver within the last two years, as in previous times similar observations were made respecting the increased production of gold, it is opportune to refer to it here.

Would the actual quantity of silver and gold be sufficient to redeem immediately the estimated value represented by bank-notes and bonds? Evidently no.

But otherwise, if the quantity of precious metal has increased, its increase is in no ratio to the increase of the population of the world, and also to the increase of our necessities, which are consequent to the exquisite refinement of a civilization which improves and multiplies infinitely all that we use in our food, in our garments, in our houses, in our furnitures, in all the implements which we employ in our studies, in our improvements in the way of traveling, in our mode of hygiene, in our amusements, in our enjoyments, in our fancies, and in all that constitutes our existence.

Compare what an individual or a family would have spent one hundred or even fifty years ago to enjoy all the comforts and splendor of those times with what an individual or family would require to enjoy the same conditions with the modern improvements, and you will see with astonishment what is now used and required by our civilization, in view of improving the social conditions of humanity and of making man king of creation; how very distinct and how very much more numerous the means and more costly altogether than what was used in former times.

All the silver, all the gold, and the enormous mass of metals which are produced annually, could never be sufficient to represent admitted values represented by mercantile transactions which have increased to colossal dimensions, if such civilization, assisted by scientific and the constant discoveries, had not invented other means of exchange, fully credited with confidence, and without which commerce in general could not have attained its wonderful developments.

In conclusion, respecting this point, I take the liberty of quoting what an eminent economist states regarding that point:

"There is no real value, other than that what I may term tangible things, by which I understand merchandise and also money. This is an assertion almost ridiculous by its slightness, that there is no real wealth but tangible wealth. All other things are simple devices, which, handled with prudence and ability, can surely render great services and facilitate commercial activity and avoid expenses; but which cannot create value. A debt is not a value; it is not a value unless the debtor be perfectly solvent.

"When there is doubt on the solvency of the debtor, the debt is not a value; it is a chimera. Whoever be the debtor, be he a simple individual, a banking-house, or a government, if he be solvent, the debt represents a capital; if he be insolvent, the debt is worthless."

FOURTH.—Into the best means for providing for facilitating the resumption of specie payments.

This question is very complex, and its solution depends upon that of the three anterior; but I do not feel competent to give my opinion, because at this moment I have not the data to form a proper opinion, and I must not delay this information, which is to be transmitted by mail which is to leave to-day.

Mexico, December 10, 1876.

S. CAMACHO.

C.

[Translation from the Spanish.]

Extract from the Diario Official, (official gazette,) Mexico, October 14, 1876.

CONGRESS OF THE UNION—PARLIAMENTARY CRONIC, SENATE, SESSION OF THE 12TH OCTOBER, 1876. THE CITIZEN GONZALEZ COSIO, PRESIDENT:

The citizen Matias Romero:

It is difficult, with my incapacity as an orator, to reply to the speech of Señor Payno, which has been heard with so much applause, and which refers to article 7 of a project for the free exportation of national products. Nevertheless, I have a perfect conviction that the projected law, now under discussion, is far from promising danger to our country; on the contrary, that it will be of great utility, and that it is based on the immutable laws of progress. Therefore, I will not undertake to refute an argument adorned with figures and flowing from a fertile and brilliant imagination, such as I have not, but I will endeavor to supply my lack of eloquence with sound and clear reasonings, suggested by my conviction and the facts which are evident.

I regret that the member (Mr. Payno) is not here to hear my reply to his speech, but it is not in my power to defer this discussion.

Yesterday I informed him that I intended to meet his argument in this session, and I begged him to be here early. I presume that urgent and grave business has detained him.

First, I will remark that, although his speech was very eloquent, it was *ex tempore* on the discussion of the project of article 7. All the speech, in fact, was aimed at the suppression of the export-duty on "coined" silver, and that suppression had been decided in Congress in the session of Thursday, 5th instant, and the first article of the project of the law had passed. When that article was in discussion, that speech would have been in its place; but in the discussion of article 7, which establishes a duty of 10 per cent. on the tariff of importation, it was not.

If I was inclined to discuss on points of form, I should object to enter into the discussion provoked by the opponent, on the ground that it is on a point settled by a vote in Congress, and that is contrary to the rules, which forbids the rehearing of a matter finally disposed of; but, as the object of that law is of very high importance, and that a further discussion will serve to enlighten us and show more evidence of its utility, and, moreover, as the observations of the opponent were the cause of vacillation in some of the votes given favorably to article 1, I hope it will not be disapproved if I trespass the rules by entering again into the question provoked by the opposition, arguing at present on article 1 of the project as if it stood yet on the ground of discussion.

The opponent commenced his speech giving the history of the Mexican dollar, exaggerating the appreciation of it in the markets of China. Nevertheless, in his historical references, he has incurred some inaccuracies, which I will note, though reluctantly, because I do not wish, nor do I pretend, to be his censor; but I cannot avoid it, for it is essential to my point, which is to demonstrate that his argument in favor of maintaining the export-duty, instead of being favorable to his views, militates to the contrary.

Previous to mentioning those inaccuracies, I believe it to be my duty to render homage, which I consider due to the opponent, for his pre-

visions of the damaging impressions in China which would result from the alteration in the Mexican coin, as decreed by the law of November 27, 1867. Every alteration in merchandise must always cause the depreciation of that merchandise.

Commerce has peculiarities, which, though they be irrational, must be respected, rather than to be exposed to great losses.

The cacao of Tabasco is not favorably accepted in market if it is not of a reddish color. The coffee of Guatemala is dyed with a blue color resembling lead. The depreciation of our dollar in the markets of China and Japan was caused by the substitution of the Phrygian cap by a pair of balances, as it occurred fifty years ago, when the Spanish effigy was altered and replaced by the Mexican; and the United States took advantage of that and fabricated their dollar "of commerce"—"de trafico." The alteration decreed by law of November 27, 1867, had good reasons to be.

The alteration of the ancient Mexican seal had been made by the pretended administration of the intervention with the engraved effigy of Maximilian.

When the government republic was re-installed in Mexico, they found the seal of the coins had been altered, and under the alternative of adopting the ancient seal or a new one, it was preferred to make a new one.

Shortly after the new coin had been in circulation, the dollar with a "balance" was also accredited; and, as it is stated in the information which I have received, through the kindness of Mr. Dias Cobarrubias, president of the commission which was sent to observe the transit of Venus, the dollars with a balance are as much accredited as those with the Phrygian cap; they are both received at par. Therefore I believe it was imprudent to have made the alteration of November 27, 1867, but I also believe that, once made, it would have been proper to have continued with it, and not retrograde, using the ancient seal as it was determined by the law of May 30, 1873.

Be that as it may, please remark that in the project which is now under discussion, it is not intended to make any alteration in the coin which is coined for use in China. Therefore, what the opponent said in regard to that business has neither relation with the opinion expressed, neither can it be considered as an objection to it. The reasons for which the Mexican dollar was appreciated in China are not, I think, such as the opponent states them to be; it was not because the stamp on it expresses its standard with initials, the name of the mint where it was coined, and the name of the assayer; but it was because of the imperfection of our process of separation in our smelting-apparatus; our silver coin usually contained some gold, and therefore its intrinsic value was above that of its legal value.

The Chinese people, who were well aware of that, because their method of separating metals was superior to ours, bought those dollars at a higher price than their legal value; and that was the cause of our dollars being quoted in foreign markets, previous to the depreciation of silver, at a premium.

It is certain that the Government of the United States took advantage, as I have heretofore stated, of the depreciation of our dollars, occasioned in China by the alteration of their effigy, and fabricated "trade" dollars, with the view of establishing their merit in that market; but it is untrue to say that the intrinsic value of those dollars was inferior to that of ours, though I admit that its standard was.

The weight of our dollars is 27.073 grams (French,) and its standard

ten pennyweights twenty grains, or 902.7 thousandths in decimal numbers, though the weight of the American "trade" is 420 troy grains, and its standard 900 thousandths of silver and 100 of copper alloy, in conformity with the law of February 12, 1873.

The "trade" dollar weighs 420 troy grains, and the Mexican 417.79; resulting then a difference in favor of that "trade" (*del trafico*) of 2.21 troy grains. The Mexican dollar weighs in grams 27.073, and the "trade" 27.216, giving a difference in favor of the second of 0.143 grams.

This increase in weight shows that, notwithstanding the standard of the "trade" is inferior to that of the Mexican, the intrinsic value of the first is greater. That difference in value comes to be about two per thousand.

Thus, should the American "trade" dollar be preferred to the Mexican in the market of China, that would be not on account of the alteration of the effigy of our dollars, but to the greater intrinsic value of the North American dollar. But there is not such a preference, because the Mexican dollar is so highly appreciated in that market that it is preferred to the "trade"—a preference probably due in part to the caprice or settled ways of Asiatic people, or perhaps because among us the separation is made imperfectly, or none is made, as it occurs in the mint of Oaxaca and others, and, in that case, our dollars have a greater intrinsic value than those of the North Americans.

Mr. Diaz Cobarrubias has informed me that in the Asiatic markets our dollar is preferred to the American "trade."

One of the principal motives why the "trade" North American dollar can rival with ours in the market of China is because the North Americans ship them directly from the place where they are produced to the place where they are used, while we ship them from here to Europe, and from Europe they are shipped to Asia, with extra expense of freight, insurance, and commission.

How could it be possible for our dollars to rival with that of the North Americans, when to those extra expenses must be added the heavy duties which they pay to the general government and to the states, when the American dollar has only to bear the expense of transport.

That consideration alone is sufficient to franchise the Mexican dollars from export duties; and there are other considerations which imperatively demand that they should be freed from that heavy charge, otherwise it will annihilate our mineral industry.

The opponent did not give due credit to an important fact in this question, and it is that our commercial relations with Asia, at the time of the commercial restrictions, when our commerce was exclusively in the hands of the Spaniards, have been reduced to nothing since we gained our independence and we opened our ports to all the world.

Thanks now to the contract which we have made with the Pacific Steam Mail Company, their vessels call at our ports, and we are again in communication with China and Japan.

Considering that it was a necessity for us to renew our relations with Japan, in 1875 Mr. Diaz Cobarrubias was commissioned to go to that country. Our principal object in view was to make arrangements to remit our dollars to their natural market.

Since the first meeting of this Congress, I have had in mind to take the initiative in introducing a law to send an extraordinary mission to China and to Japan, but, desiring to consult previously with the executive on that subject, until yesterday I was not prepared to present my motion before Congress.

I doubt not that the fractional Mexican coin circulates in Australia

and in other British possessions, but I doubt the non-circulation there of the English coin, inasmuch as those are English colonies, and therefore it is not probable that British legal currency should not circulate.

Mr. Diaz Cobarrubias has informed me that in Japan the Mexican currency is preferred to Japanese, though not exclusively received. It implies that the same occurs in Australia respecting the Mexican and English coin.

It is not strictly a fact that at present in the United States the legal currency is of silver. The law of April 2, 1792, declared the gold and silver coin of its neighboring nation to be legal when coined with a proportion of one alloy to fifteen of its weight.

In 1834 that proportion was altered from one to sixteen, and in 1837 there was a small alteration or diminution in regard to gold coin, but the law February 12, 1873, suppressed the circulation of the silver coin as legal coin in the North American United States, and decreed that it was obligatory to be received in payment only in amount not exceeding $5.

In view of altering that law, re-establishing the currency in both metals, Senator John P. Jones made a remarkable speech in the Senate of the United States in the session of the 24th of April last. He enters with eminent talent in the question of silver. His speech contains very important data, from which I will extract the points which I believe necessary to my arguments in this debate.

Recently the Government of the United States issued a law for the coining of $10,000,000 of fractional coin, to redeem a similar quantity of fractional paper currency; but yet it cannot be said that silver is restored to the position it had by the law of the 2d of April, 1792.

After the foregoing rectifications, I am in conformity with the assertion of the opponent, that the Mexican dollar is an accredited merchandise, and that it is demanded in China; but it is with the appreciation of what it is worth; so that when the value of silver lowers, that of the dollar will equally, and *vice versa*.

The commerce of Europe with China principally consists in silk, tea, and spices, and I believe it exceeds considerably $100,000,000 yearly, as the opponent states.

It is therefore certain that our silver ingots and our coined dollars will be in demand in Europe, to be remitted to the markets of China, &c.; but that demand will not hasten the price of our dollars toward lower rates or cause them to rise in equal ratio with silver, as we have seen them lower of late.

The opponent has stated that the price of Mexican dollars sold in London, according to latest quotations, was hardly with a discount of 5 per cent., and pretends to say that taking off the export-duty, silver will be on equal footing with all other national merchandise.

When speaking of the advantages resulting in favor of the other various effects which we export, by the export-duty imposed on silver, I will attend to that last consideration, and at present I will only speak in regard to the price of silver.

Our silver, either coined or in ingots, is sold in London by weight on the base of a fixed standard or legal price of an ounce—100,000 Mexican dollars weighing 86,750 standard ounces.

Within a period of forty years, from 1833 to 1873, the legal ounce was sold from 59 to 62 pennyweights.

From 1873 the value of silver commenced declining. During that year the medium price of its value was 59¼ pennyweights; in 1874, $58\frac{5}{16}$; in 1875, $56\frac{7}{8}$, and in August of this year it declined to 48½. After-

ward it rose to 54, and at present, according to the last telegrams, it is at 53 pennyweights.

The price represents in London $95.78 in cash for $100, Mexican, or, what is equivalent, 95¾ cents for each dollar. The decline is not more than 4¼ per cent. on the legal value of dollars; but it must be accounted for by various circumstances.

First, that price represents a loss of $16.94 cents per hundred on the value of silver in 1872, in this way:

In 1872 $100, Mexican, at 62 pennyweights	$112 05
In 1876 $100, Mexican, at 52⅝ pennyweights	95 01
Loss	16 94

admitting that 48 pennyweights make one dollar, or that a pound sterling is equivalent to $5.

Moreover, the Mexican dollar arrived in London, where it is now worth 52⅝ pennyweights, or otherwise $95.11, had to bear the following charges:

Duties on coining	$5 00
Export-duties	4 50
Duties to the States	2 50
Expenses of insurance, commissions, freights, &c	2 50
	14 50
The decrease on the legal price of the dollar	4 89
Total demerit	19 39

or 19¾ cents on each dollar.

Therefore, evidently, it is not exact to say, absolutely, that the loss on silver at present in London is only 5 per cent.

The most evident proof of that fact is the rate of exchange. If when 100 Mexican dollars, sold at 62 pennyweights, produced in London $112.05, and the premium of exchange was at the rate of from 6 to 8 per cent., what should the rate be at present, if $100 Mexicans are only worth $95.11? On the market it has fluctuated from 20 to 30 per cent.

El Federalista has lately published the account of an invoice to London of $1,000—Mexican dollars—which sold in that market at 46 pennyweights per legal ounce, producing a loss of $227.42—otherwise equal to 22.742 per cent.; and remarks that on that account were not charged either the duties of coinage, or the duties of States, which amounted to 7 per cent. Neither is it exact to say that silver in ingots is worth less in the market of London than silver in coin.

Generally the ingots are worth more than the dollars, for the simple reason that ingots are without alloy of copper, and have perchance an alloy of gold, while the dollars have it of copper.

In exceptional circumstances, when there is a scarcity of dollars, both merchandises come to par, though always with some preference for dollars, but that is an exception.

To obtain exact data on this particular, I solicited the able broker, Mr. Alexander Argandar, for a list of prices in regard to some of the points I referred to, and he had the kindness to procure them.

Respecting the price of silver ingots, in his memorandum, he says: "Silver in ingots is worth 1¼ pennyweights per hundred more than coined dollars, excepting when these are scarce and there is in London a demand for the markets of China and Japan."

That in certain "price-currents" which the opponent has exhibited to one of the members of the commission the Mexican dollar appears quoted in London at a higher rate than silver in ingots, is no evidence that it is the normal situation of the market.

The same fact exists in the Review of the market of London, as referred by the opponent, and of which he showed me a copy.

That Review is dated London, August 31 of this year, and under the signature of Messrs. Sharps & Williams, licensed brokers, who, referring to Mexican dollars, say: "Mexican dollars continue to be extraordinarily scarce and the demand for them for shipment to China is very considerable, the price having risen to 54¼, which was obtained to-day for those arrived by the steamer Para."

Although the Mexican dollar should always be rated on the London market at a higher price than silver ingots, such a difference in price, which would be from 1½ to 2 per cent., would not cover the cost of 4½ per cent. for coinage, not accounting for the loss in the coinage of our dollars, which is of great consideration, for it results from our defective process of the separation of gold from silver. I believe we ought not boast of the favorable appreciation of our dollars in London and in China, for it is in consequence of ignorance in our process of the separation of metals, when compared with that of other nations. Our confidence in that respect is, in general, of much prejudice to our mining operations.

To say "Mexican" silver is more valuable than that of other nation, is an absurdity. All kinds of silver, wherever it comes from, are of similar value.

Another proof that silver in coin is not worth more than in ingots is that in remittances of that metal in both forms, that in ingots gives a better result. The difference of results in both remittances has risen on certain occasions to 8 per cent. on silver ingots.

Moreover, that difference in value has no relation, in the views of the projected law, because it places silver ingots and coin on equal footing.

Remark, that the object of the law under discussion is to permit the exportation of all national produce free of duty, and not exceptionally in regard to silver.

It is a fact that silver will participate in general exemption from duties, it being one of the national productions and the most important of the exportations. This exemption will be more profitable as regards all other productions than for silver, because silver will remain burdened with the duty of coinage.

I will consider first the obligation incumbent on the government to protect the exportation of the productions of the country, and next I will argue the question of silver.

All countries have two distinct classes of produce, some of them being intended for home consumption, the others for exportation.

It happens frequently that an article has demand both at home and abroad, as wheat and cotton in the United States, and with us silver. Our home consumption must be very limited, for though we calculate our population at 9,000,000 inhabitants, it must be admitted that two-thirds of them are not consumers.

But although the whole of our population be consumers, the foreign market would always be preferable, because its demand is much more considerable.

Some of our merchandises are not convenient for exportation, because of the great costs of their transportation, and because in other countries the cost of their production is cheaper, and because they are consumed at home and can only be produced in limited quantity. If the production is increased and the consumption is not increased in proportion, the unavoidable consequence is a lowering in value, which often causes the

ruin of the producer. By that remark can be explained why the farmers desire poor crops and are in fear of good ones. Sugar is an evidence of that fact. When the production of that article was limited, and when almost the whole of the republic was supplied with it from the plantations of Cuernavaca, sugar was sold at $3 per 25 pounds at the lowest price, and sometimes at higher rates; and as the cost of production was hardly $1.50 per 25 pounds, the profit was at least 100 per cent.

But that profit caused an increase of production; new plantations were made, not only in the valley of Cuernavaca, but also in other parts of the republic convenient for the culture of sugar; and in consequence of the excess of production the result is now that sugar is often sold at cost, and sometimes under.

It is evident such would not be the case if the quantity raised in excess could be exported.

In the United States alone Mexico could send, with profit, twenty times the amount of its production in sugar.

What is said of individuals can be said of nations. A man must produce the means of subsistence for himself and for his family. A nation has to produce for its home consumption first, and then for exportation. All overproduction being exported, its wealth is increased.

It seems it has not been the intention of Providence that a nation should be self-subsistent; and even China, which has appeared to subsist by itself, has felt the necessity of our silver. Its existence will always be uncertain and miserable, in a way similar to our Indians and our journeymen, who hardly earn what is necessary to life; but it produces articles for exportation; its wealth, and consequently its well-being, civilization, progress, increase of population, improvement of the race, will follow.

Consider what would be the public wealth and the general comfort if all the useful hands in the nation were employed in producing articles of home consumption and of exportation.

Instead of misery, desolation, brutalities, and death, we would see progress, comfort, civilization, wealth, and life; instead of revolutions, we would have peace. After a few years, we might become a rich and happy nation, while, if we continue in the way we are doing, the present generation, it may be, will have to see greater public calamities than we have yet experienced.

Is is very painful to see nations of the same origin, of the same race and civilization as ours, with elements of wealth not superior to ours, export a great deal more than we do, in proportion to their populations.

The following statistical report, copied from the "Almanac of Gotha," 1873, shows the population and amount of imports and exports of various nations of America. (I was unable to obtain the almanac of this year.) That almanac sets down Mexico in 1868 with a population of 9,173,052 inhabitants, with imports, from 1869 to 1870, amounting to $23,174,729, and an export of $26,000,000, of which $19,000,000 are represented in precious metals, as hereafter stated.

Countries.	Population.	Exports.	Imports.
Argentine Republic	1, 877, 490	$26, 753, 213	$46, 624, 766
Brazil	11, 780, 009	166, 700, 000	202, 700, 000
Colombia	2, 900, 633	8, 284, 000	5, 843, 466
Chili	1, 972, 438	26, 970, 000	28, 230, 000
Peru	2, 500, 000	48, 000, 000	24, 000, 000
Venezuela	1, 400, 000	38, 001, 040	26, 748, 636
Salvador	600, 000	3, 810, 910	2, 551, 560
Costa-Rica	165, 000	2, 268, 400	1, 459, 800

It is shown, then, that Mexico exports, in proportion, much less than other nations of the same family. What is the cause of that? Is it from the inferior quality of our land? Is it from the inferiority of its inhabitants? Is it from the topographical configuration of the land?

In my opinion, gentlemen, this gloomy result ought to be attributed to our fiscal laws, which, instead of giving an impulse to the production of articles of export, have cramped it by heavy and even absurd export-duties.

And now, on this occasion investigating the matter uncovers the wound which is eating at the vitals of our country. Shall we not apply the remedy which is in our hands? Shall we maintain that dreadful imposition of export-duty, which paralyzes its productions? Shall we see our country going fast in the path of ruin?

I hope there is nobody in this hall to contradict that it is an imperious duty, incumbent on Congress, to increase exportation, by shaking off what is an obstacle to an important branch of our commerce.

Now, let us examine whether an exception is to be made in regard to silver.

In the session of the 25th of September last, when I first spoke on this point, I made an observation which I believe is decisive.

Silver is subject to the common rules which govern the alternative of abundance or scarcity; such is the opinion which the opponent has also admitted.

In the present state of depreciation, can we enter in competition with American silver, which is mined at less cost than ours, by the aid of steam-power, and with other advantages from the investment of great capital, and, moreover, which is not incumbered by the exaction of export-duty of at least 12 per cent., which our silver has to pay, part of which goes to the federation and the balance to the States?

Let us compare the cheapest of articles manufactured by steam-power with the cost of those worked by hand, and the great diminution in the cost will be made evident in the matter of articles fabricated through that powerful agent of civilization.

The committee have not pretended in their report to support themselves with the various theories of European economists, but they have only stated invariable principles of economy for their application to our situation and our peculiar necessities.

The fundamental bases of political economy are similar to those of agriculture: they are both invariable, but they must be applied diversely, according to localities and special circumstances.

For example, the English rules of agriculture, which I believe to be the most progressive of the world, could not be applied in Mexico without taking into consideration the difference in climate, seasons, latitude, &c.; otherwise the result would be a complete failure. The same would occur in political economy should the opinion of European economists prevail. Among the principles recorded by eminent writers on agricultural economy, many could be applied in Mexico as in Europe; such are their theories of irrigating and manuring, and which would give good results here as in Europe.

The opponent foresees danger in taking off the established duties on a production which he says can bear it without being overcharged.

It is proper to remark again that there is no ground to insist on the allegation that silver can bear the tax which it pays at present of 9½ per cent. to the federal treasury and of 2½ to the States, in all, 12 per cent.

Moreover, the point is not to lay a new tax on the people; but, on the contrary, it is evident that the importer charges the price of his merchandise not only with the import-duty, but with the export-duty of the silver, which he must remit in payment.

It is a fact that the consumer pays at present both duties, the importer having paid the duty when importing his goods, and likewise on silver exported in payment of them. Therefore, the projected law being adopted, and the rate of import duties being increased in proportion, equalizes the export duty on silver, which is to be abolished. The consequence will be that both duties will be united under the one duty, and that will be without loss to the public treasury, to the importer, to the consumer.

Precisely the great advantages which result from the law in project are that, without new charge on the people or causing any decrease in the income of the treasury, it is the means of efficient protection to one of the great Mexican products, without in any way producing prejudice to our industries. When we see with evidence, as on this occasion, one of the principal national industries threatened with complete ruin by an onerous tax, ought we to permit such a calamity?

Under the administration of General Comonfort there was an enormous tax, a monopoly on tobacco which had been established for a long time; it was one of the most important branches of public revenue; it was a gold-mine for the national treasury.

Nevertheless, considering it a duty to remove damaging consequences derived from the monopoly on tobacco, he issued a law declaring it free in every way, both as to its manufacture, culture, sale, and exportation in all parts of the country; but he imposed a duty on foreign tobacco, in order that it might not enter into competition with home produce.

Then it is evident that he acted with patriotism, taking off the most productive tax on national produce and establishing a new one on foreign goods.

It must be understood that I do not censure that act; but, on the contrary, that I approve it as very praiseworthy. That same noble example is, in the views of the commission, to imitate by the law now under discussion.

The opponent has stated as a fact that silver has the double character of merchandise and currency and means of exchange after it is coined. If silver is merchandise it is evident that it is subject to fluctuations, from the state of abundance or of scarcity.

Many are under the impression that the cause why gold and silver are used for currency is on account of both metals having an invariable intrinsic value; that opinion is an error, and although eloquently demonstrated by the actual depreciation of silver, it augurs badly for us.

A summary revision of the relative value of silver and gold from authentic history shows that fact. There are data, though incomplete, on that subject, and which refer as far back as sixteen centuries before Christ. This long period is divided into four eras.

The first includes 1,600 years before the Christian era, until the time of Augustus, or the year 37. In that first period the highest rate of gold was from 1 to 13.30, and the lowest from 1 to 8.93. The conquest of Alexander the Great, in the East, the rich booties, and among these the immense quantities of gold which he captured, were the cause of the depreciation of gold to the rate of 1 silver to 10. And the conquest of Cæsar over the Gauls, and the booties of gold which were sent to Rome in the years from 49 to 58 before Christ, was the cause of another decrease of that metal to the rate of 8.93.

With the gold plundered in Italy, gold medals with the bust of Alexander were made, and are very remarkable by their beautiful engravings and the purity of metal.

The second period, included in the Middle Age, embraces from the year 37 to 1640, the highest rate of gold being 13.51 in the last year, and the lowest, 10.50, in the year 1500, with a medium rate of 11.44 to 13.51.

The third period includes from 1665 to 1872, the highest rate of gold being 15.83 from 1841 to 1850, and the lowest 14.15 in 1667, and the medium rate from 14.84 to 15.83. In that period, the production of silver was considerably increased by the exploration of the mines of America and by the process of amalgamation with quicksilver.

At the beginning of the seventeenth century, commerce was opened with China and the East Indies by the way of Cape Horn, and it was why that great increase in the production of silver did not cause a decrease in its value.

It is calculated that India alone consumed, in the seventeenth and eighteenth centuries, two-fifths of the total product of the silver-mines of America. In that way the increase of production was balanced by the consumption of that extensive market.

In the fourth and last period, which comprehends from the year 1873 to this date, the relation between the two metals has shown an increase in the value of gold and consequently a decrease in silver. In 1873, the relation has been from 1 gold to 15.90 silver; in 1874, it rose to 16.15; in 1875, it commenced at 16.45; in January and in December, it had reached 16.89; in January, 1876, it reached to 17.08; and on the 12th of April it had reached to 17.69. Consequently, within the last three years and four months of this year, the decrease has been 10 per cent.

The causes of that decrease have been heretofore explained. The use of steam in mining operations has caused a considerable increase of production; the discovery of the "Comstock" vein in the State of Nevada in the United States has increased the production considerably; and the almost total discontinuation of the coining of silver in England since 1816, in the United States in 1873, and the partial discontinuance among the Latin countries, France, Belgium, Italy, Switzerland, Greece, and Roumania.

I consider it probable, and I do not hesitate in expressing that the decrease in value of silver will not continue, and that this year we have attained its maximum. I have based that opinion on the annual production of silver, which is now from $100,000,000 to $120,000,000.

The following data, which I extract from Senator Jones's speech, demonstrate that fact.

The following statistics show the whole number of inhabitants in the world, and the amount of metal in coin allowed to each individual, at various periods of the present century:

Years	Population.	Stock of coin.	Proportion for each inhabitant.
1803	900,000,000	$2,500,000,000	$2.83
1829	1,000,000,000	2,600,000,000	2.60
1848 to 1853	1,000,000,000	3,400,000,000	3.09
1872	1,200,000,000	5,700,000,000	4.75

Of that immense quantity of coin, there is yearly a waste by the immense quantity of coin lost, and by its decrease in weight from constant use. That waste is calculated at the rate of half per cent. yearly, amounting to $85,500,000 annually.

The population of the western hemisphere duplicates every century, and the wealth of each individual has, during this century, duplicated itself; therefore the silver and gold which are now produced are insufficient to cover the annual losses on the actual quantity of coin and provide for an increase of wealth in proportion to the increase of the population.

That increase of wealth to each individual is also apparent in the oriental markets, though the number of population remains stationary.

The amount of population and of metals in Asia is as follows:

Years.	Population.	Coin.	Proportion to each inhabitant.
1804	700, 000, 000	$700, 000, 000	$1
1829	700, 000, 000	800, 000, 000	1
1848	700, 000, 000	900, 000, 000	1
1872	700, 000, 000	2, 100, 000, 000	3

It is consequently evident that, within less than a century, the wealth of the inhabitants of Asia has triplicated; and nevertheless the scarcity of coin is such that taxes are paid with rice.

To maintain the quantity of coin which exists in Asia, and supply for accidental and eventual losses, $30,000,000 are required.

In Asia, silver is preferred to gold, but it is to be considered that the production of gold is very irregular and that of silver is more uniform.

At the beginning of this century, in the western hemisphere, the production of silver was $35,000,000, of which amount two-thirds were produced from our mines; and in the year 1875 it amounted to $72,000,000.

Therefore it is evident that it has gradually increased in proportion to the increase of population; meanwhile the production of gold has fluctuated greatly, as the following table shows:

Years.	Production of gold.	Years.	Production of gold.
1801	$13, 000, 000	1863	$107, 000, 000
1829	5, 000, 000	1865	130, 000, 000
1852	182, 500, 000	1875	97, 000, 000

These fluctuations are due principally to the fact that gold is found in "placers," (where gold is found detached from its original mine.)

Of the whole production of precious metals, 52½ per cent. is of gold from the British colonies; the silver is most exclusively from America.

Nevertheless, at the beginning of this century, the production of silver had considerably increased, it ceasing to be employed in the manufacturing of table-services, washing-basins, lamps, chandeliers, &c., it can be considered as certain that silver has reached its lowest rate of value, and that the low rate of this year is due to variable and accidental circumstances, which will be of no permanent influence in its value. Well-founded as this opinion may be, it should not detain Congress in applying a remedy to avoid fatal consequences; because it is a fact that silver has decreased in value in a way without precedent, and that the actual low rate may yet continue for some length of time.

Admitting that the Mexican dollar is a merchandise specially marketable in China, and in great demand there, yet that is a good reason why it should be protected, according to the project under consideration, by taking away as much as possible the burden now resting upon it; moreover, taking this tax from silver and placing it on merchandise imported into the republic will thereby cause no prejudice to the public treasury.

I remark that the audience before me give evidence of fatigue. It is not strange, as the subject is a dry one, and is not as well developed as it might be; but the importance and urgency of the subject is such, that it seems proper to enter into further considerations of it, and I will take the liberty to proceed on for a short time, noting further particulars.

The opponent states that the actual charges on sugar are enormous; and all he has said on that subject demonstrates the necessity of approving the project and making it a law.

The most important point in view is to abolish the federal taxes on produce of exportation, and also those collected by the States on produce of the same class; and, moreover, the collection of those by the States is illegal; for it was enacted without the approbation of the Federal Congress, and therefore in contravention of art. 112 of the constitution.

The sugars of Morelas cannot be exported at present because they pay heavy taxes to the States of Morelas and of Vera Cruz; therefore the project of law under discussion is of public necessity, in view of abolishing all the anticonstitutional taxes.

The opponent made the question of the sugars of Morelas the base of his last objection, in opposition to the opinion of the commissions; referring to what had been said in the Sixth Congress "de la Union," in May, 1872, in regard to the free exportation of sugar.

He pretended that the tax on silver exported was equivalent, by its indirect effect, to a premium in favor of some agricultural produce exported, and which otherwise could not be profitably exported. That was the case in fact; but leaving aside the consideration whether it was or not just and convenient to impose a tax on the most important national industry to protect one of much less importance, is a question to be weighed according to circumstances; but at the time referred to, Mexican silver was sold in foreign markets with a premium; and when silver was sold at par, the agricultural produce exported was benefited some nine per cent. In regard to the sugar of the State of Morellas, I must say, that for the present state of the country, without easy means of transportation and for the great distance from the embarking point, it would be difficult to make its exportation a profitable business.

D 1.

[Translation.]

MINISTRY OF "FOMENTO" (FOR ENCOURAGEMENT OF COLONIZATION, INDUSTRY, AND COMMERCE.)—SECTION FIRST.

The citizen president of the republic has addressed me the following decree:

Benito Juarez, constitutional president of the Mexican United States, to its inhabitants, to wit:

That in virtue of the ample faculties of which I am invested; and

Considering the necessity of a reform of the national currency, by the uniformity of its subdivisions, for the benefit of our society, and to make easier and to simplify commercial transactions;

Considering that the simultaneous circulation of the currency of ancient and of the decimal division, though authorized, is prejudicial and contrary to the principle of administration generally accepted, and moreover a cause of trouble and great loss to the great number of citizens which compose the laboring portion of our people;

Considering that the copper currency coined in the States, by exceptional circumstances, generally have not the necessary conditions, and that the lack of uniformity restrains its circulation to a limited radius, causing therefore great damage to the extension of commerce;

Considering that the actual type of our currency is imperfect in form, though susceptible of being improved by the perfection attained in our country in the fine arts;

Considering finally that, at present, it is opportune to put in practice the prescription of the law, which has determined to establish in the republic the decimal system, without making any essential modification in the "unity" coin of Mexico, generally known and esteemed in the world, I have decreed as follows:

ART. 1. The "unity" currency of the Mexican Republic shall be, as it has been to this day, the silver dollar, with the same standard and weight as at present.

ART. 2. The silver dollar shall be divided in two pieces of 50 cents; in four of 25 cents; in ten of 10 cents, and in twenty of 5 cents. The piece of one cent of copper or of an alloy in which copper shall exceed.

ART. 3. The gold currency shall be in pieces of 20 dollars, of 10 dollars, of 5 dollars, of 2 dollars and 50 cents, and of 1 dollar.

ART. 4. The standard of all silver currencies shall be of 902.777 thousandths of thousandth 10 pennyweights 20 grams, (French,) and that of all gold currencies 875 thousandths, (standard of 21 carats.)

ART. 5. The silver dollar shall weigh 27 grams 73 thousandths of a gram; the piece of 50 cents, 13 grams 536 thousandths of a gram; the piece of 25 cents, 6 grams 768 thousandths of a gram; the piece of 10 cents, 2 grams 707 thousandths of a gram; the piece of 5 cents, 1 gram 353 thousandths of a gram. The weight of the gold piece of 20 dollars shall be 33 grams 841 thousandths of a gram; that of the piece of 10 dollars, 16 grams 920 thousandths of a gram; that of the piece of 5 dollars, 8 grams 460 thousandths of a gram; that of the piece of 2 dollars and 50 cents, 4 grams 230 thousandths of a gram; and the piece of one dollar, 1 gram 692 thousandths of a gram; the piece of 1 cent shall weigh 8 grams.

ART. 6. The diameter of the silver dollar shall be 37 thousandths of a meter; of the piece of 50 cents, 30 thousandths of a meter; that of the piece of 25 cents, 25 thousandths of a meter; that of the piece of 10 cents, 17 thousandths of a meter; that of the 5 cents, 14 thousandths of a meter. The diameter of the gold coin shall be according to the following dimensions: Piece of 20 dollars, 34 thousandths of a meter; piece of 10 dollars, 27 thousandths of a meter; piece of 5 dollars, 22 thousandths of a meter; piece of 2 dollars and 50 cents, 18 thousandths of a meter; piece of 1 dollar, 15 thousandths of a meter; the diameter of the piece of one cent shall be of 25 thousandths of a meter if in copper; of 20 thousandths of a meter if of a special alloy.

ART. 7. On every coin shall be carefully engraved its value, the initials of the name of the government's assayer, the name of the city or place where it was made, and the year, expressing the standard in silver or gold.

ART. 8. The cent shall be copper or a special metallic alloy, with an excess of copper, such as shall be determined by the ministry of fomento.

ART. 9. A slight difference may be admitted, more or less, in regard to standards for the precious metals, but shall they not exceed three thousandths for silver and two thousandths for gold; but that slight difference shall not be admitted, except in certain exceptional cases, and not as a general rule in the fabrication of coins.

ART. 10. Ninety days after the publication of this decree, in the capital of Mexico, it shall be obligatory to the government's assayers to mark in thousandths the standard of silver and of gold, whether separated, simple, or with alloy.

The denominations of weights of coin, with standard and grams as formerly used for the designation of the purity of the alloy of said metals, are abolished.

ART. 11. To comply strictly with the anterior article, the minister of fomento shall cause to be made decimal weights, as described in said article, and he shall remit those to every one of the assayers and to all the mints of the republic.

ART. 12. For the engraving of the dies of the national coins such as heretofore is decreed and for the improvement of the actual type, a meeting of national and foreign engravers shall be held, who shall exhibit models, which shall be subject to the approval of a special jury, presided over by the ministry of fomento, under the rules which shall be expressed in the official circular convening the said meeting.

ART. 13. On the 15th of September, 1868, the circulation of the coins which bear the imperial effigy, such as those denominated "reales," "medios," and the copper coins, differing from the new system, shall be abolished.

For its circulation, publication, and full compliance this present decree shall be printed.

National government palace in Mexico, November 27, 1867.

BENITO JUAREZ.

Independence and liberty. Mexico, November 28, 1867.

BALCÁRCEL.

D 2.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO.—SECCION 2ª.

[Circular núm. 15.]

Uno de los ramos mas importantes que están á cargo de este ministerio, es la formacion de la estadística del pais, único medio de conocer la riqueza pública, arreglar equitativamente los impuestos, disminuir los gravámenes y crear la hacienda, estableciéndola bajo un sistema fundado en los sólidos principios de la economía política. Representando en el pais un papel tan interesante la industria minera, pues que forma una de sus fuentes principales de riqueza, su progreso y desarrollo merecen la preferente atencion del gobierno. En consideracion á esto, se ha servido resolver el C. Presidente, que se pidan á vd. todos los datos que se puedan recoger en el estado de su digno mando, acerca de los diferentes productos minerales que en él existan, y la manera de explotarles. Con el objeto de facilitar el trabajo y al mismo tiempo para que se haga de un modo uniforme en todos los puntos donde estos datos deban re-

cogerse, remito á vd. —— ejemplares de las tablas destinadas á contener los correspondientes á los minerales é igual número de las destinadas á las haciendas de beneficio de metales. Las columnas deberán llenarse, á excepcion de las que han de contener los nombres de las minas ó haciendas, con cifras que expresen las cantidades producidas ó empleadas de los objetos cuyo nombre encabeza la columna, teniendo cuidado de indicar la unidad de que se hace uso, si no está expresado en el título de ella, y reservando la columna de observaciones para las aclaraciones ó advertencias que se consideren necesarías, y para los datos que no tengan cabida en el cuerpo de la tabla, entre los cuales debe contarse la fuerza de las máquinas que se usen, expresada en caballos-vapor, si son de vapor ó hidráulicas, ó por el número de bestias que las muevan, si se les aplica fuerza animal.

Siendo de gran interes, no solo para el gobierno general, sino para todos y cada uno de los estados de la República, la formacion de la estadística minera, no me detendré en encarecer la necesidad de que el gobierno de ese estado procure remitir á la mayor brevedad posible las noticas á que se refiere esta circular; pues es bien sabido que los trabajos para los que se necesita la cooperacion de los funcionarios á quienes está encomendado promover el bien de la República, cuando no se toman desde su principio con eficacia y actividad, quedan despues olvidados, y por consiguiente malogrado el fin que se tuvo al iniciarlos.

Independencia y libertad. México, Diciembre 17 de 1867.

BALCÁRCEL.

C. gobernador del estado de ———.

D 3.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular número 55.]

Con motivo de una consulta dirigida á esta secretaría por la diputacion de minería de Pachuca, sobre si se deben admitir denuncios de las minas que han estado amparadas por concesion del gobierno, inmediatamente que terminen esos amparos, se distó la resolucion siguiente:

"Se ha impuesto el C. Presidente de la comunicacion de vd., de 9 del actual, en que participa que el amparo concedido por el gobierno á varias minas de ese distrito, ha terminado en 6 del mismo, y consulta si deben considerarse como denunciables desde esa fecha, ó si desde ella deben comenzarse á contar los cuatro ó los ocho meses de abandono que exigen las ordenanzas de minería en los artículos 13 y 14 del título 9, para que las minas puedan ser denunciables por desiertas.

"El mismo C. Presidente se ha servido resolver se diga á vd. en contestacion, que siendo el amparo una gracia concedida al dueño de la mina, por la cual queda exento de cumplir con ciertas prescripciones de las ordenanzas, y libre por lo mismo de la pena de perder la mina, en que hubiera incurrido si no gozara de esa concesion; cuando esta cesa, no puede exigírsele otra cosa que el cumplimiento de las prescripciones de que estuvo eximido: ademas, previenen las ordenanzas, que cuando una mina sea denunciada por desierta, para que sea adjudicada al denunciante, es necesario que este pruebe que ha estado abandonada por cuatro meses seguidos, ó por ocho, con las interrupciones de que habla el art. 14 del tít. 9, y no seria justo en manera alguna que el tiempo que

la mina estuvo abandonada, porque su dueño disfrutaba de un amparo, pudiera servir de prueba para justificar su desercion; que por estas razones no pueden ser denunciables las minas luego que termina el amparo de que han disfrutado, sino solamente despues que hayan trascurrido los términos señalados en los artículos 13 y 14 del tít. 9 de las ordenanzas de minería, sin que los dueños de las minas hayan cumplido con lo que en esos mismos artículos se previene."

Y como los fundamentos de esta resolucion tienen igual fuerza, cualquiera que sea el distrito mineral en que ocurran los casos á que se refiere, lo comunico á vd. por acuerdo del C. Presidente, para que le dé exacto cumplimiento.

Independencia y libertad. México, Julio 22 de 1868.

BALCÁRCEL.

C. primer diputado de la diputacion de minería de ———.

D 4.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular número 62.]

El interesante papel que representa la moneda en todas las transaciones mercantiles, exige de parte del poder público una vigilancia constante y celosa, con el fin de lograr que en toda transacion, la moneda no solo represente, sino que efectivamente tenga un valor igual á aquel por el que se da en cambio. Sobre esta base de exactitud, debe fabricarse en todas partes la moneda: separarse de ella es entorpecer las operaciones del tráfico, y autorizar, como legales, cambios que no podrian tener este carácter. Y esta exactitud no seria realizable, ni en la teoría ni en la práctica, si la moneda no fuera uniforme en toda la República, y si las piezas de ella no estuvieran sujetas en todas partes á las mismas condiciones.

La conformidad en peso y en ley, tratándose de piezas de la misma especie, es la primera de esas condiciones, pues seria en extremo inconveniente que dos monedas que representan un valor idéntico, no tuvieran en realidad sino dos distintos. Ademas de las consecuencias que se deducirian de esta injusta desigualdad, y que se harian sentir en breve sobre el crédito de la misma moneda, el gobierno supremo considera como muy grave, que el sello nacional, bajo el que circulan las piezas de que se trata, viniera á autorizar un valor que las mismas piezas no tendrian realmente. Sobre este punto llamo con particularidad la atencion de vd., pues el C. Presidente de la República quiere, á todo trance, conseguir que la confianza pública, que está depositada en el gobierno, no se vea engañada en asunto de tanta trascendencia y que afecta á todas las clases de la sociedad; los agentes públicos deben secundar, en este particular, la vigilancia del gobierno supremo, que se empeña, no tan solo en que el sello nacional merezca en las monedas una fé respetable, fundada en la exactitud del valor de las piezas, sino que se considere como resguardando, hasta en valores insignificantes, los intereses de todos y cada uno de los tenedores de la misma moneda.

Al llevar á cabo esta resolucion el supremo gobierno, no solo lo hace para defender los intereses públicos que están bajo su cuidado, sino porque en esto, como en todo, esos mismos intereses se hallan bajo la proteccion de la ley. En efecto, en virtud de la ley vigente sobre esta

materia, expedida en 13 de Febrero de 1822, se define cual es la diferencia que se puede tolerar en peso, feble ó fuerte, en la elaboracion de la moneda. Ademas de esta ley, que fija la tolerancia que en un sentido ó en otro puede haber en el peso de un marco acuñado, están vigentes las ordenanzas de casas de moneda, que establecen el modo de dividir esta tolerancia en las distintas piezas de moneda que se acuñen. Importa hacer notar á vd. que segun el tenor expreso del art. 18 de las mismas ordenanzas, se previene que los febles y fuertes en peso, no se permitan sino en *una que otra moneda*, y no dando por causal de esta tolerancia sino la imperfeccion de los procedimientos prácticos con que habia que hacer la elaboracion. Á pesar de estos, y á pesar tambien de que el límite fijado en la ordenanza se ha reducido, en virtud de la ley citada de 13 de Febrero de 1822, á la cantidad de 8½ granos por marco, (0k.000648 por 0k.230123,) por el repetido art. 18 de la ordenanza subsiste la disposicion de que la diferencia proporcional para cada moneda, no se tolere como regla general, sino como rara excepcion en *una que otra*, y con mas razon hoy que, como es sabido, los procedimientos prácticos que se usan son mas perfectos.

Queda claramente definido cual es son el espíritu y la tendencia de la ley en esta materia, y solo por un punible abuso, abuso que consiste en considerar como regla general lo que aquella establece como una rara excepcion, puede haberse llegado á fundar la viciosa práctica de hacer que todas las levadas de una libranza lleguen al límite del feble permitido.

Ciñéndose estrictamente á las prevenciones de la ley, se conseguiria que la moneda fuera tan igual, tan exacta como es posible, y los febles en peso no serian un demérito de la misma, ni una pérdida que irian sucesivamente sufriendo los diversos tenedores de ella, ni á la sombra del sello nacional se autorizarian en las piezas de moneda, valores que no tienen.

Con el fin de que nunca llegue á tener lugar este caso, el C. Presidente de la República se ha servido disponer quede sin efecto alguno la suprema órden de 6 de Mayo de 1861, que declara buenas las levadas de mil pesos que alcanzaren á 117 marcos, tres onzas, tres ochavas de peso, tanto porque dicha órden se ha interpretado de modo de hacer de ella un fundamento para que todas las levadas se pongan en el feble, cuya práctica es enteramente contraria al espíritu de la ley, como porque en ella se incurre en el error de considerar el peso de 117 marcos, cinco onzas, una ochava, como el límite superior del fuerte tolerado, cuando no es sino el peso justo á que debe llegar el total le las monedas de la levada. En tal virtud, para la calificacion del peso de la moneda fabricada en ese establecimiento, se sujetará vd. estrictamente á lo prevenido en las repetidas ordenanzas, y en la ley de 13 de Febrero de 1822, siendo caso de grave responsabilidad para vd., obrar en un sentido que no sea el indicado.

Recomiendo á vd. muy especialmente, por expresa órden del C. Presidente de la República, que, obrando en los términos de las leyes citadas, no dé vd. por buenas mas que aquellas libranzas en que todas ó la mayor parte de las levadas tengan el peso justo de 27k.073281, (117 marcos, cinco onzas, una ochava, dos tomines, cinco granos,) no tolerando sino en una que otra, y como caso excepcional, un peso menor ó mayor que el ántes indicado, y cuya diferencia, en mas ó en ménos, nunca podrá llegar á lo que corresponda á un grano, ó á 0k.000050 por cada pieza del valor de un peso de las que componen la levada; debiendo desechar toda libranza en que no haya, por lo ménos, las tres cuartas partes del total de las levadas con el peso justo, aunque todas estén dentro de los límites tolerados.

Tratándose de las libranzas de oro, se sujetará vd. á las mismas prevenciones, teniendo en cuenta que la tolerancia en las levadas no ha de llegar á 0.70 de grano ($0^{k}.000035$) por cada pieza de 16 pesos de las mil que forman la levada.

Prevengo á vd. asimismo, que al dar cuenta á este ministerio de la presentacion de una libranza y del resultado de su calificacion, acompañe vd. un estado en que ademas del peso, valor, suertes de moneda y ley, conste tambien el número de levadas que se hicieron, el peso que sacó cada una de ellas, y el peso de las monedas que se reconocieren separadamente.

El C. Presidente espera que estas prevenciones serán puntualmente cumplidas por vd., quien debe considerar como muy delicado un asunto que, como este, se refiere tan directamente al interes público.

Independencia y libertad. México, Setiembre 9 de 1868.

BALCÁRCEL.

Ciudadano ———.

D 5.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular número 80.]

Al prevenirse á los ensayadores de la República, por el decreto de 27 de Noviembre de 1867, que marcasen en milésimos las leyes de las piezas de oro ó plata que ensayarán, no se hizo variacion alguna en las disposiciones vigentes sobre las leyes de oro *marcables* en las platas mixtas. Para continuar la observancia de estas disposiciones, al pasar de un sistema á otro de pesas, ha debido tomarse su relacion mas aproximada, sobre todo en el límite inferior de la ley de oro marcable, que es de diez y seiz granos menores del quilatero, los que equivalen ó corresponden á tres y un tercio milésimos ($3^{m}.3$) de las pesas decimales. Como al usar estas en algunas casas de moneda, se ha alterado la relacion que tienen con los granos del quilatero, con notable perjuicio de los introductores de platas, el C. Presidente ha tenido á bien disponer se prevenga á V., que en las platas mixtas, la ley ínfima de oro que debe marcarse para que se pague su valor á los introductores, es la de tres y un tercio milésimos, que corresponden á los diez y seis granos que previene la ordenanza del ramo. Y á fin de que no sea un motivo de excusa en el cumplimiento de esta prevencion la poca sensibilidad de las balanzas ó la falta de subdivisiones en el juego de pesas decimales usado, dispone tambien el mismo C. Presidente, que cuando alguno de estos casos se presentare, se tome un multiplo de la pesada de ensaye usada generalmente, para deducir por el cálculo la ley exacta que corresponde. Si por carecer de pesas decimales, algunas oficinas de ensaye practicasen sus operaciones con las antiguas del dineral y quilatero, harán la reduccion correspondiente para expresar en milésimos las leyes que se marquen á las piezas, como lo previene el art. 10 del decreto citado.

Por expreso acuerdo del C. Presidente, recomiendo á V. la exacta observancia de estas instrucciones, que tienden al mejor cumplimiento de las leyes vigentes, en que se interesan el buen nombre del supremo gobierno y la confianza pública en las oficinas de ensaye.

Independencia y libertad. México, Abril 29 de 1869.

BALCÁRCEL.

C. ensayador de cajas de ———.

D 6.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular núm. 86.]

Sujentándose á lo prevenido en el art. 9° de la ley de 22 de Noviembre de 1821, y al reglamento del decreto de 4 de Setiembre de 1839, formará V. la regulacion de los gastos que en el último año fiscal han causado las operaciones de fundicion y ensaye, para graduar por ellos las cuotas que en el presente deben cobrarse por derechos de las mismas operaciones. La tarifa que segun esta regulacion forme V. para que rija en esa oficina en el nuevo año fiscal la pondrá V. en observancia desde luego, sin perjuicio de remitirla inmediatamente á este ministerio para su exámen y aprobacion.

Independencia y libertad. México, Julio 1° de 1869.

BALCÁRCEL.

C. ensayador ———.

D 7.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular N. 13.]

No habiéndose reglamentado en la circular número 62, expedida por esta secretaría en 9 de Setiembre de 1868, la manera con que deben proceder los jurados de calificacion para examiner las libranzas presentadas en las casas de moneda, llevando en cuenta los resultados del peso de las levadas por menor y por piezas sueltas, y no habiéndose fijado la tolerancia que debe permitirse en dichas levadas y en la moneda menuda, por lo cual los jurados de calificacion han dirigido varias consultas al gobierno sobre el particular; tomando en consideracion lo expuesto en las indicadas consultas, lo prevenido en las antiguas ordenanzas de casas de moneda y leyes posteriores vigentes, y atendiendo á la dificultad que en la fabricacion en grande hay para uniformar entre límites estrechos el peso de todas las monedas individualmente, con el fin de que la que se mande poner en circulacion llene los requisitos que las leyes previenen y que su valor intrínseco corresponda al que representan, el C. Presidente de la República, con el objeto de reglamentar en la parte indicada los procedimientos de los jurados de calificacion, se ha servido dictar las disposiciones que á continuacion se expresan:

Toda la moneda que se presente para su calificacion, pasará de las oficinas de labor á la sala de despacho, donde á la vista del jurado precisamente se vaciarán las telegas, y despues de haber revuelto la moneda de cada lance de fundicion, se contará formándose levadas del valor de mil pesos fuertes, las cuales se reconocerán con total arreglo á lo prevenido en la circular número 62 de este ministerio, no dándose por buenas mas que aquellas libranzas en las que por lo ménos las tres cuartas partes del total de las levadas tengan el peso justo de (27$^{kil.}$073281) veintisiete kilógramos setenta y tres mil doscientos ochenta y un miligramos, no tolerando sino en una que otra, y como caso excepcional, un peso mayor ó menor, y cuya diferencia nunca podrá llegar á cincuenta

gramos, que es lo que corresponde al feble ó fuerte de 8½ granos por marco que fijó la ley de 13 de Febrero de 1822. Una vez satisfecho este requisito, el jurado procederá á reconocer la moneda por levadas de á diez pesos, pudiendo examinar tantas cuantas juzgue necesarias; pero cuyo número en ningun caso deberá ser menor que el de las levadas de á mil pesos, no debiendo tolerarse en el peso de doscientos setenta gramos setecientos treinta y tres milígramos sino la diferencia de cinco decígramos en mas ó ménos, que corresponde á la de 8½ granos en el marco; por último, el jurado deberá examinar de una en una las monedas que estime convenientes, no pudiendo ser menor el número de monedas pesadas individualmente que el de las levadas de mil pesos, siendo preciso para que la libranza pueda aprebarse, que el peso de cada una de las monedas examinadas esté comprendido entre (27.173 y 26.973) veintisiete gramos ciento setenta y tres milígramos y vientiseis gramos novecientos setenta y tres miligramos, que resulta de la tolerancia de un decígramo (dos granos) por pieza, y ademas que la suma de las tolerancias de todas las monedas sueltas no exceda de la fijada en la ley de Febrero de 1822; y cuyo permiso de un decígramo se ha servido señalar el C. Presidente de la República, de acuerdo con lo dispuesto en las ordenanzas de las casas de moneda, que fijan una tolerancia para las monedas sueltas mayor de la que corresponde proporcionalmente á la permitida para el marco, atendiendo á la dificultad que hay en la práctica de la acuñacion para uniformar entre sí el peso de todas las monedas individualmente, y porque concediéndose este tolerancia, no como regla general, sino para uno que otro caso, segun lo previenen las ordenanzas, no resulta ningun inconveniente, supuesto que arreglándose al peso justo por lo ménos las tres cuartas partes de las levadas de á mil y no tolerándose en las de á diez monedas sino las diferencias señaladas, la circunstancia de que alguna moneda suelta llegue á diferir de su peso justo hasta un decígramo, (dos granos,) no llegará á producir ninguna alteracion en el permiso de 8½ granos per marco, prevenido en la ley de 13 de Febrero de 1822. En el caso de que las levadas de mil pesos, de á diez ó de las unidades no llenen los requisitos prevenidos, no deberá aprobarse la libranza en su totalidad; sino que el jurado mandará recoger las monedas que satisfagan las condiciones exigidas, haciendo fundir solamente las que se encuentren fuera de los límites señalados.

Para las monedas de plata del valor de 50, 25, 10, y 5 centavos de peso, la calificacion se hará reconociendo la moneda primero por las levadas con el número correspondiente de piezas que tengan el valor de cien pesos, en las cuales se concede la tolerancia proporcional de cinco gramos en mas ó en ménos del peso justo de dos mil setecientos siete gramos trescientos veintiocho milígramos; en seguida con el número de monedas queden el valor de diez pesos, se háran por lo ménos tantas levadas como se hicieron de á cien, no debiendo admitirse mas diferencia que la de cinco decígramos en mas ó en ménos sobre el peso de doscientos setenta gramos setecientos treinta y tres milígramos; y por último, se pesarán por lo ménos igual número de monedas sueltas como levadas del valor de á cien pesos se hayan hecho, en el concepto de que la tolerancia en mas ó en ménos será para la pieza de á 50 centavos de setenta y cinco milígramos, (uno y medio granos,) para la de 25 y 10 centavos, cincuenta milígramos (un grano) y para la de 5 centavos la de veinticinco milígramos, (medio grano.)

En la calificacion de las libranzas de oro, los jurados reconocerán toda la moneda presentada por levadas de á cien piezas, cuando estas sean del valor de veinte pesos, siendo requisito indispensable para su aprobacion, que la mayor parte tengan el peso justo de (3^{k},384^{g},160^{m}) tres

kilogramos, trescientos ochenta y cuatro gramos, ciento sesenta miligramos, permitiéndose la tolerancia en mas ó en ménos de cuarenta y cuarto decígramos por levada, que es lo que corresponde á la de seis granos por marco, fijada en las ordenanzas: en seguida se reconocerá la moneda por levadas de á diez piezas, no debiendo ser el número de estas inferior al de las de á cien, y su peso no deberá diferir por falta ó por exceso del peso justo de trescientos treinta y ocho gramos, cuatrocientos diez y seis miligramos, sino en cuarenta y cuatro centígramos á lo mas; por último, el jurado reconocerá por lo ménos tantas monedas sueltas como levadas haya hecho de á cien piezas, en el peso de algunas de las cuales se concede la tolerancia en mas ó ménos de setenta y cinco miligramos, (uno y medio granos,) con respecto al peso justo de treinta y tres gramos, ochocientos cuarenta y un miligramos.

En las libranzas de moneda de oro de á 10, 5, $2\frac{1}{2}$ y 1 peso, deberá comenzarse el reconocimiento por levadas que tengan el valor de mil pesos, siempre que esto sea posible; en seguida se reconocerá por levadas de monedas, cuyo valor equivalga á cien pesos, concediéndose la tolerancia de veintidos decígramos en mas ó ménos para las del valor de á mil pesos, y de veintidos centígramos en las de á cien pesos; por último, se procederá al reconocimiento de las piezas sueltas, en las que para algunas de ellas se permite la tolerancia de cincuenta miligramos (un grano) para la moneda de oro de á 10 pesos, de treinta y ocho milímetros (tres cuartos de grano próximamente) en la de 5 pesos y de $2\frac{1}{2}$ pesos, y la de veinticinco miligramos (medio grano) en la de á 1 peso.

El el caso de que la libranza no llene alguno de los requisitos indicados, se escogerán las monedas buenas, como se previno en las de plata, fundiéndose solo aquellas cuyo peso esté fuera de los límites señalados.

Para determinar la ley de una libranza, se presentará separadamente la moneda que provenga de cada crasada ó lance de fundicion, tomando el ensayador una moneda para fijar la ley de la cantidad correspondiente á cada lance. Si la libranza fuere de plata y su ley no difiere tres milésimos en feble ó fuerte de la de novecientos dos milésimos siete décimas, deberá aprobarse, así como cuando siendo la libranza de oro no se aparte dos milésimos su ley de la de ochocientos setenta y cinco milésimos.

Si todas las monedas ensayadas tienen una ley fuera de la tolerancia indicada, la labranza deberá ser reprobada; pero cuando unas monedas esten dentro del permiso y otras fuera, el jurado hará los exámenes y pruebas que estime convenientes, á fin de cerciorarse, si fuere posible, cual es la parte de moneda que procede de alguna fundicion, cuya ley no se arregló debidamente, para que solo esta se refunda; teniendo especial cuidado de que no se ponga en circulacion moneda cuya ley esté fuera de los límites señalados.

De lo expuesto anteriormente, resulta que los límites permitidos en la ley y peso de la moneda, son los siguientes:

1° La tolerancia en la ley de la moneda de plata será de 3 milésimos en feble ó fuerte sobre la ley justa de 902.7 de milésimos, (10 dineros 20 granos.)

2° La tolerancia en la ley de la moneda de oro será de 2 milésimos en mas ó ménos sobre la ley justa de 875 milésimos, (21 quilates.)

3° El permiso en fuerte ó feble que se concede en el peso de la moneda será el siguiente:

Para la plata en levadas de 1,000 pesos fuertes.....	50 gramos.
Para la idem idem de 10 pesos	5 decígramos.
Para la idem idem de 1 peso	1 decígramo.
En moneda menuda de plata:	
Para levadas con el valor de á 100 pesos.....	5 gramos.

Idem idem de á 10 idem	5 decígramos.
En la moneda de valor de 50 cs	75 miligramos.
Idem idem de 25 idem	50 idem.
Idem idem de 10 idem	50 idem.
Idem idem de 5 idem	25 idem.
En las monedas de oro la tolerancia será en levadas del valor de 2,000 pesos	44 decígramos.
Idem idem de 1,000 idem	22 idem.
Idem idem de 200 idem	440 miligramos.
Idem idem de 100 idem	220 idem.
En la moneda del valor de 20 pesos	75 idem.
Idem idem de 10 idem	50 idem.
Idem idem de 5 idem	38 idem.
Idem idem de 2½ idem	38 idem.
Idem idem de 1 idem	25 idem.

El C. Presidente de la República recomienda muy particularmente á los jurados de calificacion establecidos en las casas de moneda, que se sujeten en el desempeño de su encargo, á las anteriores prevenciones, y á las contenidas en la circular número 62, de 9 de Setiembre de 1868, y en el reglamento de interventores, de 17 de Marzo de 1869, en cuanto no se opongan á las aclaraciones y disposiciones de esta circular; debiendo tener siempre presente que las tolerancias, tanto en el peso como en la ley, no deben admitirse como una regla general, sino solamente para casos excepcionales, procurando que nunca excedan de los límites fijados por las leyes vigentes.

Independencia y libertad. México, Abril 25 de 1871.

BALCÁRCEL.

D 8.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

El C. Presidente de la República se ha servido dirigirme el decreto que sigue:

"Sebastian Lerdo de Tejada, Presidente constitucional de los Estados-Unidos Mexicanos, á sus habitantes, sabed:

"Que el Congreso de la Union ha tenido á bien decretar lo siguiente:

"'El Congreso de la Union decreta:

"'ART. 1° El tipo, peso y ley de la unidad monetaria de la República, que es el peso de plata, será el mismo que estaba en uso ántes del 28 de Noviembre de 1867.

"'ART. 2° Quedan vigentes las disposiciones del decreto de aquella fecha, en lo relativo á la division, peso y ley de las otras monedas de oro, de plata y de cobre.

"'Palacio del poder legislativo de la Union.

"'México, Mayo veintinueve de mil ochocientos setenta y tres.

"'M. ROMERO RUBIO,
"'*Diputado Presidente.*

"'V. DE CASTAÑEDA Y NÁJERA,
"'*Diputado Secretario.*

"'F. MICHEL,
"'*Diputado Secretario.*'

"Por tanto, mando se imprima, publique, circule y se le dé el debido cumplimiento.

"Palacio nacional de México, á veintinueve de Mayo de mil ochocientos sententa y tres.

"SEBASTIAN LERDO DE TEJADA.

"Al C. BLAS BALCÁRCEL,

"*Ministro de Fomento, Colonizacion, Industria y Comercio.*"

Y lo comunico á vd. para su inteligencia y fines correspondientes. Independencia y libertad. México, Mayo 30 de 1873.

BALCÁRCEL.

Ciudadano ———.

D 9.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular.]

La ley expedida por el Congreso en 28 de Mayo último, previene en su artículo 1°, que en lo sucesivo la moneda de plata del valor de un peso, que es la unidad monetaria de la República, se acuñe con el mismo tipo que tenia ántes de la expedicion de la ley de 28 de Noviembre de 1867.

El ejecutivo, obsequiando inmediatamente esa disposicion, ha prevenido por circular á los interventores y directores de las casas de moneda de la República, que se proceda desde luego á fabricar los cuños necesarios, sirviéndose de las matrices del antiguo tipo que existan en aquellos establecimientos, de manera que la resolucion del Congreso no experimente mas demora en ser llevada á la práctica, que la exigida para la ejecucion de los cuños ó para proveer de matrices del antiguo tipo á aquellas casas que no las hayan conservado.

Al participarlo á vd. por acuerdo del C. Presidente, le manifiesto que la ley de 28 de Mayo último, no hace mas modificacion á la ley de 28 de Noviembre de 67, que la variacion que introduce en el tipo de la unidad monetaria ó sea el peso; pero que el valor de esta moneda permanece el mismo, porque no se hace variacion alguna en su peso ni su ley; que los pesos que se han acuñado conforme á lo dispuesto por la ley de 28 de Noviembre de 67, tienen y seguirán teniendo curso legal, puesto que su acuñacion se hizo en virtud de una ley.

En cuanto á las demas monedas, tanto las de plata del valor de cincuenta, veinticinco, diez y cinco centavos de peso, como las de oro de veinte pesos, diez pesos, cinco pesos, dos pesos cincuenta centavos y un peso, y las de cobre del valor de un centavo, se continuarán acuñando con las condiciones prevenidas en la misma ley de 28 de Noviembre de 67.

Lo que tengo el honor de decir á vd., á fin de que se sirva darle la conveniente publicidad, para que, siendo conocidas las disposiciones á que se refiere esta comunicacion, no se ponga obstáculo á la circulacion de las monedas que en ella se especifican.

Independencia y libertad. México, Junio 19 de 1873.

BALCÁRCEL.

Ciudadano ———.

D 10.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular.]

Conforme á lo prevenido en el artículo 9º de la ley de 22 de Noviembre de 1821 y al reglamento del decreto de 4 de Setiembre de 1839, formará vd., inmediatamente que termine el presente año fiscal, la regulacion de los gastos que en él han originado las operaciones de fundicion y ensaye, para graduar por ellos las cuotas que deban cobrarse en el próximo por derechos de las mismas operaciones. La tarifa que forme vd. segun esta prevencion, la remitirá lo mas oportunamente posible á esta secretaría, en donde, previo exámen, se resolverá sobre ella lo conveniente. Entretanto se comunica á vd. esta resolucion, se continuarán cobrando en esa oficina los derechos que actualmente rigen.

Para la formacion de la tarifa se sujetará vd. á las instrucciones siguientes:

1ª Los ensayes se dividirán en dos categorías: la primera comprenderá los de plata pura y plata mixta cuya ley de oro no pase de 250 milésimos, pues todas las piezas deberán ensayarse por oro; y la segunda, los de plata mixta cuya ley de oro pase de 250 milésimos, oroche y oro puro.

2ª Para cada una de estas categorías se fijarán los derechos que correspondan, conforme á los datos recogidos en esa oficina.

3ª Los derechos de fondicion se cobrarán siempre por peso, tomando como unidad el costo correspondiente á un kilógramo; pero en el concepto de que no se cobrará ménos de cien centavos por operacion, cuando la pieza ó piezas por fundir tengan un peso inferior al que corresponda á dicho derecho. Por ejemplo: en el supuesto de que el costo de fundicion de un kilógramo sea de cinco centavos, no se cobrará ménos de cien centavos por la fundicion de piezas cuyo peso sea inferior á 20 kilógramos.

Á la tarifa formada con arreglo á las bases anteriores, acompañará vd. los siguientes datos correspondientes al año fiscal de 1º de Julio de 1873 á 30 de Junio de 1874:

Número de kilógramos de plata y oro fundidos y costo que ha ocasionado esta operacion.

Número y costo de los ensayes de la primera categoría, practicados en esa oficina.

El mismo dato respecto de los ensayes de la segunda categoría.

Productos y gastos totales habidos en la oficina durante el año de que se trata.

Por acuerdo expreso del C. Presidente, se recomienda á vd. el exacto cumplimiento de la presente circular, porque es indispensable para la uniformidad del servicio en todas las oficinas de ensaye que dependen de la federacion.

Independencia y libertad. México, Mayo de 1874.

BALCÁRCEL.

C. ———.

D 11.

MINISTERIO DE FOMENTO, COLONIZACION, INDUSTRIA Y COMERCIO DE LA REPÚBLICA MEXICANA.—SECCION 2ª.

[Circular.]

Al formar el estado general de esa casa de moneda, correspondiente al presente año enconómico que terminará en 30 de Junio próximo, y el cual remitirá vd. á esta secretaría en Julio venidero, deberá vd. tener presentes las observaciones y prevenciones que á continuacion se expresan.

En las columnas que bajo el encabezado de "cizalla" se hallan en los esqueletos enviados por esta secretaría, asentará vd., con perfecta separacion del oro y de la plata, los valores que de cada uno de estos metales existian en 30 de Junio de 1875 y existan en 30 de Junio de 1876, no solamente bajo la forma de cizalla, sino tambien bajo cualesquiera otras formas, estados ó denominaciones adoptadas en ese establecimiento. Estos datos son esenciales y su importancia es muy grande, porque combinados con la introduccion total y con las cantidades acuñadas, hacen conocer la verdadera pérdida que los metales preciosos experimentan en las diversas operaciones á que se someten desde que se introducen á la casa hasta su completa conversion en moneda.

Como la pérdida total que resulta de las parciales originadas en la fundicion, laminacion, corte, arreglo, blanquimento, apartado, &c., debe ser igual á estas últimas, acompañará vd. por separado un cuadro en que la primera aparezca comprobada, tan exactamente como sea posible, por las segundas; es decir, que expresará vd. la pérdida que corresponde á cada una de las diversas oficinas en la pérdida total ántes mencionada. Estos datos pueden tomarse de las cuentas particulares que llevan las diversas oficinas, pues la diferencia entre lo que han recibido y lo que han entregado en el año, representará la merma que han experimentado los metales preciosos en las operaciones á que han sido sometidos en cada una de ellas.

Respecto del apartado, expresará vd. cual es la cantidad total de plata mixta que se ha sujetado á esta operacion, durante el año enconómico; cual la cantidad de oro contenida en aquella; cuánto corresponde de esta cantidad de oro á los introductores por sus platas mixtas con leyes de oro marcables, y finalmente, cuales han sido las mermas que la plata y el oro han sufrido en dicha operacion.

Acompañará vd. una noticia de los sueldos y gastos habidos en la casa de moneda durante el año fiscal de que se trata, haciendo constar separadamente los que corresponden á cada una de las oficinas ó ramos que aquella comprende.

Enviará vd. tambien una lista de los empleados y dependientes de esa casa, que disfrutan asignacion fija, con expresion de las cantidades que perciben y cargos que en ella desempeñan.

Por último, remitirá vd. un informe en que se hallen consignadas todas las aclaraciones que vd. crea indispensables para la mejor inteligencia de los datos anteriores, pues interesa mucho que no haya ninguna duda respecto de estos últimos, á fin de que su comparacion con los de las otras casas de moneda pueda dar á conocer la marcha de estos establecimientos y permita descubrir las causas principales de las diferencias que se advierten en sus resultados.

El Presidente espera de la eficacia de vd. y de su empeño por el adelanto de la casa de moneda que tiene bajo su direccion, que cumplirá

exactamente con todo lo que se previene en la presente circular, cuyo objecto es reunia en esta secretaría todos los datos que conviene tener á la vista para dictar las providencias que tiendan á mejorar las condiciones actuales de los establecimientos de amonedacion.

Independencia y libertad. México, Abril 25 de 1876.

BALCÁRCEL.

C. Director de la casa de moneda de ———.

PERU.

A.—Letter of Minister Gibbs to Secretary of State, replying to circular B of commission.

A 1.—Director of mint to Minister Gibbs, with information as to coinage in Peru.

A 2.—Article from the South Pacific Times on the mineral resources of Peru.

A.

LEGATION OF THE UNITED STATES,
Lima, Peru, November 21, 1876.

SIR: I have the honor to refer to the circular of September 18, with interrogatories of the United States Monetary Commission, received October 18.

Since the reception of the circular, I have given my attention in acquiring all the information possible on the subject, but have encountered the same difficulty which I referred to in my dispatch No. 63, March 13, on the product of sugar in Peru—want of statistical data. Up to the year 1874 there was no statistical bureau established; in that year one was inaugurated, but up to the present has not published any statistics.

Peru has no regular mining-laws, and the only ones on the subject are the old Spanish ordinances, which were modified for Spain's possessions in America according to the royal decrees 29th December, 1777, 26th of January and the 20th of August, 1779. Some additions and modifications were made in the reign of Fernando VII, 1811. A royal order in relation to mining-ordinances in the viceroyalty of Peru was given in December 8, 1785, and published in Lima October 7, 1786.

By these decrees and orders any person could make a claim (*denuncio*, to denounce) to a mine by publishing and posting in several public places the position and location of the mine and claiming a possession (*amparo*) of 200 varas square, 100 each way; governors, high employés, judges, and clergymen were excepted. If the claim or denouncement was on a newly-discovered place, the claimant was entitled to three more possessions or *amparos* adjoining his first claim, of the same size. Each province had a mining court or commission subject to the chief mining tribunal here at Lima.

The present Congress is occupied in forming a new mining-code, as the old one admitted of many abuses; for instance, the law demanded that to hold possession the mine must be worked, and, if abandoned 120 days, was forfeited. By putting on a few men every four months and working a few days, possession could be held in this manner. An American who is interested in mining-operations informed me there

were over 15,000 mines, and not over 600 worked. The new mining-code proposes and exacts registry of every mine in the country and an annual tax to be paid, non-payment of which forfeited ownership.

In answer to the first question regarding the change of relative values between gold and silver, I have no official data; but, as will be seen by the note annexed from the director of the mint, it was formerly 15½ to 1; under Spanish rule, 16 to 1; gold is demonetized, and by the suspension of specie payments, at present, the country not being in a normal condition, Peruvian gold coin has 90 per cent. premium and silver 56 per cent., or 1 to 25.

A.—No records or regular sales.

B.—Silver. Debts could be paid in either metal. According to a decision lately in one of the courts, debts contracted previous to suspension of specie payments by banks, and when not specially mentioned, gold or silver could be paid in bank-notes.

C.—No data. Very little in the country at present, as the premium on all coined money is so high that it has been taken out of the country. Subsidiary, 300,000 sols; five cents is a legal tender.

D.—Not known. Many families in the interior and in the large towns have old silver-ware, particularly pitchers, basins, and articles for bed-chamber use.

E.—I refer to my dispatch No. 26, September 20, 1875, in which was stated the arrangement made with the associated banks for suspension of specie payments and the legal circulation of their notes. The statement of the four associated banks November 15 shows the following:

Circulation		sols 13,098,820.35
Specie in vaults:		
Silver	sols 1,819,933.34	
Gold	62,085.65	
		1,882,018.99
London and Lima Bank, foreign:		
Circulation		sols 173,266.00
Specie		333,790.06

No bills circulating.

The bills of the associated banks are legal tenders for all debts and payments, taxes, and import duties.

F.—No data. Some idea can be formed, from the report of the director of the mint, of the amount of bar silver sent to that establishment in ten years. I also refer to my remarks further on of data acquired of former products of silver in this country and the prospects for the future.

Third. Any changes in the relative values of gold and silver in this country are not due to any laws on the subject, but to extraneous causes. Gold was demonetized by the law of 30th December, 1872. National gold coin pays 3 per cent. export duty. National silver coin is prohibited to be exported; silver in bars pays 3 per cent. export duty. Coin is melted into bars to avoid the law of prohibition. Up to the year 1856, Peru produced gold and silver, and the relative value between them was nearly the same as in the European markets. Since then the product of gold has been small, or nearly ceased, while silver is always produced and exported, large quantities in ores. Gold coin is imported from the United States and Europe, which makes a difference against silver, on the importation, through loss of time, insurance, freight, and other charges, as silver must be exported to get gold here. The consumer pays the difference. Gold is concentrated in the hands of some few

dealers, and is bought exclusively by persons leaving the country, or passing travelers, who have to pay high for it. On steamer-day the price augments. At present American gold is sold at 105 per cent. premium; Peruvian at 90 per cent.; English sovereigns 110, and silver sols 56 per cent.

Fourth. From the present financial state of the country it is impossible to form any idea of the future as regards gold and silver.

Fifth. None when in circulation; as gold has gone up in value, prices on everything have nearly doubled, therefore gold is an article of commerce. All imported articles are regulated by its value in the market, and it is the true standard for commercial operations.

Sixth. No brassage is paid. Government coins all money gratis; more, it receives silver in bars or bullion, and returns an equal amount of coin in value, also giving the copper used as alloy at its own expense. No legal limits to gold or silver in coinage. There is only one mint in Peru, here in Lima, managed by the government. Customs admit coins of other countries, particularly the adjoining ones of Bolivia and Chili. I have no information of subsidiary coins being introduced into the country.

Seventh. No data.

Eighth. Mining is free; the limits are explained in the mining laws referred to, two hundred varas each way; but in the change of system of weights and measures in this country to that of France, it is now meters, which makes a difference of over 19½ per cent. more. Mining is not under the old system, but will be to a certain extent in the new mining code. There is no tax on gold and silver except as mentioned on their exportation, and this I am informed is often evaded.

I sent a note to the director of the mint, Señor Don Pedro Mariano Garcia y Garcia, with the interrogatories as per circular, and received answers, of which I inclose copies and translations.

Peru is the great silver-producing country of South America. Silver is found in all parts of the western range of the Andes from latitude 5° to 22° south, or a line of 19°.

The most important and valuable mining district, Cerro de Pasco, has produced since its discovery, 1630 to 1849, $475,000,000. I refer you to House Document Thirty-second Congress, second session, Executive No. 36: "Exploration of the valley of the Amazon, made under direction of the Navy Department, by Messrs. Lewis Herndon, Lardner Gibbon, lieutenants, U. S. N," (see pages 100 to 114,) published 1853.

Mr. Henry Meiggs, the famous builder of railroads in South America, has made a proposition to the Peruvian government, a copy of which I inclose, from the South Pacific Times of Callao. This proposition is before the Congress, and if accepted will be carried out, as the members of the mining college and the principal owners of the mines at Cerro de Pasco have agreed to the terms proposed.

The famous Oroya Railroad up and over the Andes is in part finished, carrying freight and passengers to Anhi(?), 85 miles, and 12,220 feet above the sea. It is graded 40 miles farther, passing the summit at 15,645 feet above the sea, and requires only 15 miles more work to Oroya, 12,178 feet above the sea. From Oroya to Cerro de Pasco is 84 miles, but the heaviest and most costly part of the road to the summit is finished and the rest is comparatively easy.

By a series of articles published, 9th, 10th, and 11th instant, in the "Opinion Nacionel," a daily paper of this capital, it is calculated by making a tunnel at Cerro de Pasco 150 feet below the present work-

ings, on the plan of the famous Sutro tunnel at the Virginia City mines, Nevada, a space for mining operations estimated at 100,000 square yards, (*superficios.*) It is supposed there are sulphurets of silver, or bronzes, (tailings?) to the value of $500,000,000, taking as a basis the qualities and amounts worked out from above the present line of operations.

This is only one of the many mining districts of Peru; the most celebrated and central being in about latitude 10° 50′ south; large amounts of ore are extracted from the Puno province. A railroad is completed to the city of Puno, from the port of Mollendo, passing through one of the principal cities, Arequipa, and from there to Puno, 107 miles, a rich mining district; the whole distance finished and in operation is 324 miles. This is in latitude 16° 17′ south. In the north there is a railroad from Paeasmayo to Les Vinà, going through a rich mining district, 72 miles built and in running order, and is to be continued to the valley of Cajamarca; this is in the seventh degree of latitude; and about latitude 9° south another road is being built, from Chimboto to the interior, of which 55 miles are finished. All these roads lead up into and through mining districts.

According to Castelnan's History of a Voyage in South America from Rio Janeiro to Lima, 1843–1847, by order of the French government, published at Paris, there was smelted in thirty years, from 1790 to 1820, 110,784,476 ounces of silver in the seven assaying works of the then Spanish government—Lima, Trujillo, Pasco, Huamanga, Arequipa, Faona, and Puno; these places embrace every part of Peru, from north to south. According to the same author, in six years, from 1835 to 1839, there was smelted in these same places, silver to the value of $14,506,721.56, and in twelve years, from 1783 to 1795, exports of all kinds from Callao were valued at $88,120,785, of which $78,995,756 was silver. These large amounts were produced by the old system of mining and smelting, the ores being brought from long distances by mules down from the various sierras or mountains, on narrow paths cut into the sides of the steep mountains, where often animals and their loads were lost by a misstep or stumble. I have seen these old paths and trails, and it appears incredible they could have been used for such purposes.

With the system of railroads now under way and those finished, the great silver beds of ore are being opened up; and when, by improved machinery that now can be sent up, the mines are fairly started, Peru will in a few years produce immense amounts of silver from a much larger space than is known in any other country to-day.

According to a work published in London in 1805, entitled "Skinner's Present State of Peru," it is stated there were working in 1791, 784 mines of silver in eight mining districts, and as many were abandoned.

I can find no data as regards the amount of silver ore shipped from his country, except from foreign trade reports, of which is the following:

Importation of silver ores into England from Peru.

	Value.
1870	£1,946
1871	16,191
1872	598,404
1873	45,027
1874	175,929
1874, coin	$1,600,000
1875, coin	2,735,000

And exported to England from Peru, in the months of August, September, and October, of this year, precious metals to the value of 2,024,920 sols.

I should have mentioned that the Oroya Railroad commences at the port of Callao, and passes through Lima.

I am, very respectfully, your obedient servant,

RICHARD GIBBS.

Hon. HAMILTON FISH,
Secretary of State, Washington. D. C.

A 1.

[Translation.]

Pedro Mariano Garcia y Garcia takes pleasure in saluting Mr. Richard Gibbs, envoy extraordinary and minister plenipotentiary of the United States of North America, and with his best wishes accompanies this as a token of particular esteem, and corresponding to his desires, some data relative to coinage in Peru.

Notes for the use of the envoy extraordinary and minister plenipotentiary of the United States of North America.

According to the laws of coinage of 14th February, 1863, published in the Peruana, vol. 44, No. 24, there shall be in Peru five silver coins, denominated sol, half-sol, fifth of sol, tenth, (or one dime,) one-half tenth, (or a half dime.) The standard of these silver coins shall be nine-tenths fineness, and as regards their weight the following shall be observed:

The sol, the monetary unit, shall weigh 25 grams; the half-sol, 12 grams and 500 milligrams; the fifth of sol, 5 grams; the tenth of sol, 2 grams 500 milligrams, and the half-tenth of sol, 1 gram and 250 milligrams.

According to the same law two coins of copper, one of the value of two cents of one sol and the other one cent of one sol, corresponding to the value of the material and cost of coinage. The quantity of coin to be emitted shall not exceed the value of 300,000 sols.

By the same law there should have been also five coins of gold; but according to what was established by the law of the 30th of December, 1872, there might be coined pieces of gold to weigh 25 grams and another of 5 grams, and all of the standard of nine-tenths fineness.

This money had no legal value, only what the contracting parties should agree upon.

Accompanying this is a statement of the money coined during the last eight years.

From the commencement of 1866 to date, there have been received at the mint, either for coinage or for assaying purposes, 12,003 bars of silver, whose value amounts to thirty-six millions nine thousand sols, (36,009,000.)

When gold had a legal value the relation between it and silver was one to fifteen and a half. Any amount could be paid in gold or silver; but no one was obliged to receive copper money except for values less than five cents.

Silver bars that are received for coinage at the mint should be returned to the owner converted into coin in fifteen days from its reception in the mint.

There is no law that limits coinage, (? silver.)

LIMA, *November* 15, 1876.

Note of the amounts coined in the mint at this capital during the years 1868 *to* 1876.

	Sols.
Coined in 1-sol pieces:	
Year 1868	2,388,566
Year 1869	5,316,000
Year 1870	3,136,000
Year 1871	3,139,000
In January of 1872	310,000
At this time coining was suspended to place new machinery, and commenced again in 1874.	
Year 1874, there was coined	1,506,636
Year 1875, there was coined	1,257,187
Coined in silver	17,053,389
In copper cents, were coined in the year 1876	113,000,000

LIMA, *November* 10, 1876.

[From the South Pacific Times, June 6, 1876.]

THE MINERAL RESOURCES OF PERU—MAMMOTH SCHEME FOR THEIR DEVELOPMENT.

The following is the grand proposition made by Mr. Meiggs to the government, to which we have previously alluded, and which will form the subject of future comments.

Henry Meiggs in due form presents himself before you and states:

In consequence of being contractor for the Callao and Lima Railroad, I have made investigations with respect to the mineral district of Cerro de Pasco, and, after examining its actual production and what it may be raised to if all the thrown-up, inundated, or unclaimed mines are worked, I have come to the opinion that if those mines are worked on a large scale the country will be an immense gainer both through the exportation of metals, which will facilitate home and foreign trade, and through the freight, producing sufficient to keep the Oroya Road in working-order, and perhaps to produce a rental.

It will be impossible to obtain these advantages if the Oroya be allowed to remain as the terminus of the road, because in such case it would be impossible to carry machinery to the mines, or at all events the transport would be so costly as to prevent the mines being worked, and the carriage of the metal from the mines to the Oroya would increase their cost to the detriment of the producer and purchaser. Besides, as the quantity of metals produced would continue to be small, the railroad would fail to be as profitable as the country has a right to expect a work of such magnitude should be.

In order to increase the production of Cerro de Pasco, it is requisite all the mines should be worked, and that all facilities for the transport of metals should be offered. This object cannot be obtained except by extending the Oroya Railroad to Cerro de Pasco, and executing in that district all the works which are damaged by the present state of the mines.

According to the information I have received, the lodes in the cerro which are now being worked are drained by a tunnel running nearly 100 yards below the surface of the mines. In order to be able to drive these further down, the mining corporation in 1861 proposed to drive another tunnel 40 yards lower than the former one. To enable them to carry out this most promising work the law of May 24, 1861,

was passed, by which the government was authorized to guarantee an expenditure of one million of sols.

Considering all these circumstances, I have thought that the joint work of constructing the railroads and working the mines by means of a new tunnel, if undertaken, would give to mining that prosperity to which it is really entitled, owing to the value of the lodes.

Animated by the desire of rendering this service to the country, and being well aware of the interest felt by your excellency in the progress of Cerro de Pasco, I have considered you will be pleased to witness the execution of these works, and for these reasons I submit to your excellency a proposition for their termination.

In order to proceed clearly and regularly, I will mention some general conditions, and then the special ones for the performance of each work.

I.—GENERAL CONDITIONS.

Firstly. I undertake on behalf of myself, my heirs, or successors or legal representatives: 1. To conclude the Oroya Railroad from the present termination of the work to the Oroya. 2. To continue the said line from the Oroya to Cerro de Pasco. 3. To make the new tunnel referred to in the law of May 24, 1861.

Secondly. The funds necessary for the performance of these works I will obtain on my own account, either by loan, or by forming one or more companies which will provide me with them, or by making other arrangements or combinations for the same purpose.

II.—RAILROAD FROM THE OROYA TO CERRO DE PASCO.

Firstly. I undertake to build a railroad from the Oroya to Cerro de Pasco.

Secondly. This line will be built according to the plans and preliminary survey which is in possession of the supreme government, but I am to be authorized to make all alterations in the route I may desire after the final surveys have been performed.

Thirdly. In the construction of this line I shall enjoy all the rights, privileges, and freedoms which are conceded by my present contract for the Oroya Railroad.

Fourthly. The whole line from Callao to Cerro de Pasco shall be ready for traffic within three years from the date on which this contract comes into force.

III.—THE TUNNEL.

Firstly. I will excavate the tunnel for draining according to the plan which was approved by the corporation of miners, and which served as the base for the law of May 24, 1861, or with such modifications as may be considered necessary after final surveys by the contractor's employés shall have been made, and been approved by the government. The said tunnel for drainage shall run at least 30 to 40 varas below the actual Quinlacocha tunnel, and shall contain as many branches as I may consider necessary.

Secondly. Work shall be commenced on the tunnel and on the railroad at the same time, and the tunnel shall be concluded, at the latest, two years after the railroad has been opened to traffic.

Thirdly. While the shaft is being excavated I shall enjoy all privileges conceded by the railroad contract, and which may be conceded by the mining laws to miners.

Fourthly. As the tunnel will be excavated with private means, and I am consequently entitled to all the rights which the mining laws concede to explorers, I shall be owner of all the mines which the shaft may traverse, as provided by article 7, section 6, and article 10, section 10, of the same laws. In order to render this clause intelligible I declare that the mines referred to in it are those situated in the mineral zone which exists between the actual water-level, which is the floor of the Quiulacocha tunnel, and the lower level which may be obtained as a consequence of the work to be performed.

Fifthly. I shall also have conceded to me the abandoned mines above the present shaft, and which are situated in the zone of land between the surface of the mines and the bottom of the Quiulacocha tunnel, and which is about one hundred varas in depth. The other mines in this zone which are actually at work when the drainage of the mines by pumps or tunnels is commenced will remain in possession of their owners, who will be able to enter into arrangements with me as subsequently mentioned.

Sixthly. I shall also have conceded: 1. All mineral lands traversed by the tunnel which are situated outside the city, and in all directions, as ordered by articles 1 and 2, section 6, of the mining laws. 2. All mineral lands which are unworked or abandoned, such as the lead and silver lodes at Matagente and copper and silver lodes at Yanacancha, outside the town, subject to article 6, section 6, of the laws. 3. All mines which have been lost through non-observance of the laws, according to article 6, section 6, of the same. 4. All mines which are not legally held, which are inundated or have fallen in, which are discovered in driving the tunnel, or which are below it, but can be worked by pumping-machinery, or by other means, and in general all the mines which the country possesses the right to reclaim and adjudicate under articles 13, 14, 15, section 9; article 17, section 6; articles 1, 2, 3, section 5, and articles 1, 2, 4, 10, and 17 of section 10 of the mining laws.

Seventhly. I shall also receive under section 6 of the said laws: 1. All hydraulic power which may be obtained from the water flowing from the old and new tunnels. 2. The water from the new tunnel which may flow through the Rumiallana ravine. 3. The site or sites in the said ravine which may be most suitable for the erection of the machinery and buildings of the company. The company which may be formed for the purpose of driving the tunnel and working the mines will enjoy all the privileges conceded by law to mining companies.

Eightly. The owners of mines which are being worked at the time the company commences to work will be at liberty to continue so doing without payment from the surface to the depth of the low level of the Quiulacocha tunnel, that is to say, in the dry zone, but they must conform with the mining laws.

Ninthly. While the new tunnel is being excavated I shall be at liberty to work the large pump which is at Mesapata shaft, and the small one at Yauricocha shaft, and to place one or more pumps in suitable places in order to bring the water from the levels of the Tajo de Santa Rosa or other places as I may deem fit.

Tenthly. From the bottom of the shaft I may run adits or make excavations, either for the purpose of facilitating the construction of the main shaft, or to get out the inundated one I may find, and which belongs to me according to previous clauses.

Eleventhly. The corporation of miners will concede me the use, without cost, charge, or responsibility of any kind: 1. Of the Quiulacocha tunnel and all its ramifications. 2. Of the Mesapata and Yauricocha shafts and

the machinery at them. 3. Of all the shafts belonging to the corporation, like that at Huaucapucro, and of any and all machinery belonging to it, whether it be at the Cerro or in other places.

Twelfthly. In compensation for these concessions I will give the mine-owners the tenth part of all ores worked by the company between the surface and the new shaft. This tenth part will be delivered outside the mines and free of all expense to the mine-owners.

Thirteenthly. The mine-owners referred to in the foregoing clause will arrange among themselves the manner in which the said tenth part is to be divided. It will not be my duty to give each miner his portion, but merely to form a common heap of all ores taken out, and to separate from it the tenth part to which they are jointly entitled. If the miners of any district should wish to make special arrangements for the receipt of this tenth part I shall always accept their proposals if they are easily complied with. I may also purchase this tenth part by valuation according to its richness, and also purchase the portions belonging to each miner who may wish to dispose of his property after having received it.

Fourteenthly. If one or more of the mine-owners whose properties are in the zone above the Quiulacocha tunnel should wish to work in the immediate zone while the tunnel is being made, they may do so on the following conditions: 1. They will inform me of their determination before the drainage-works have been commenced, and no proposition to work mines will be received after the said drainage-works have commenced. 2. They will pay as a drainage tax 33 per cent. of all the ores they take out, and this quota will be delivered to me at the mouth of the mine and free of all expense. 3. They will work in accordance with the mining laws. 4. I shall not be responsible for slides, stoppage of pumping-engines, flooding, or other accidents. 5. The miners who make these contracts will not participate in the tenth part of the ores referred to in clause 12.

Fifteenthly. In working the mines referred to in clause 8, the following rules will be observed: 1. Miners will work under section of the mining laws. 2. They will not carry their adits or levels, under any pretext, into the inundiate zone which is below the Quiulacocha tunnel. Should they do so the mine which is above the tunnel will become my property, as well as all the ores which may have been taken from the inundated zone. 3. In order to prevent any encroachment I shall be granted the right to examine, whenever I think fit, all the lodes which are being worked. In case some owners refuse to allow me to do so, the deputation of miners will give me the requisite assistance; and should that fail, then the political authority will lend the aid of the public force. 4. If this examination should prove that the lower lodes have been invaded, the mine-owner will be mulct of his possessions under clause 2.

Sixteenthly. All mine-owners will allow me the use of their private shafts, the mouths of their mines, and the roads from them leading to the Quiulacocha tunnel. This provision is made in order to facilitate the passage of my employés when they require to make channels for ventilation or communication, or to work ores. Should the miners refuse to allow me the use of these roads, I am empowered to call in the aid of the mining deputation or the public force as provided by the preceding clause.

Seventeenthly. Any difference which may arise between the miners and the contractors with reference to their rights and obligations will be submitted to two arbitrators appointed by each party, who will nominate a third in case of dispute, and against their decision there will be no appeal.

HENRY MEIGGS.

PORTUGAL.

A.—Minister Moran to Secretary of State.
B.—Same to same.
C.—Same to same.
D.—Minister Moran to Mr. Corvo, October 25, 1876, submitting substance and text of interrogations of commission, (omitted.)
E.—Mr. Corvo to Mr. Moran, November 23, 1876, (omitted.)
F.—Translation of the above.
G.—Mr. Corvo to Mr. Moran, February 8, 1877, (omitted.)
H.—Translation of the above.
I.—Mr. Moran to Mr. Corvo, February 17, 1877.
J.—Letter of master of the mint, (omitted.)
K.—Translation of the above.
K 1.—Treasury order, August 17, 1747, (omitted.)
K 2.—Translation of the above.
K 3.—Order of government October 9, 1811, (omitted.)
K 4.—Translation of the above.
K 5.—Law, April 24, 1835, (omitted.)
K 6.—Translation of the above.
K 7.—Law June 30, 1851, (omitted.)
K 8.—Translation.
K 9.—Law February 15, 1851, (omitted.)
K 10.—Translation.
K 11.—Law July 29, 1854, (omitted.)
K 12.—Translation.
K 13.—Coinage, 1752 to 1871, (omitted.)
K 14.—Same, with translation of headings.
K 15.—Treasury order October 6, 1710, (omitted.)
K 16.—Translation.
K 17.—Gold coined under laws of 1854 up to 1874, (omitted.)
K 18.—Summary of same.
K 19.—Silver coined under laws of 1854 up to 1874, (omitted.)
K 20.—Translation.
K 21.—Coins coined under laws of 1865 up to 1874, (omitted.)
K 22.—Translation.
K 23.—Relative value of silver coins withdrawn under act 1854 up to 1874, (omitted.)
K 24.—Translation.
K 25.—Treasury to foreign office on mining, January 23, 1877, (omitted.)
K 26.—Translation.
K 27.—Report department of mines, December 29, 1876, (omitted.)
K 28.—Translation.
K 29.—Minister of public works to minister of finance, December 29, 1876, (omitted.)
K 30.—Translation.
K 31.—Mining laws of Portugal, (omitted.)
K 32.—Summary of above in English.
K 33.—Reply of Lisbon Chamber of Commerce to interrogation of commission, (omitted.)
K 34.—Translation.

A.

LEGATION OF THE UNITED STATES,
Lisbon, December 1, 1876.

SIR: Shortly after my return to Lisbon, I instituted inquiries for information in reply to your circular of 18th September for the use of the United States Monetary Commission of 1876, but, owing to the tardy habits of these people, I have not yet succeeded in obtaining the answers in regard to this country which the commissioners desire. I addressed Mr. Corvo on the subject on the 25th of October, inclosing a copy of the interrogatories addressed to the chief officers of the mint, asking to be placed in communication with them, soliciting an early reply; but have not as yet even received an acknowledgment of my letter. And I also wrote to the director of the Bank of Portugal on the 4th ultimo, who is likewise an officer of the Lisbon Chamber of Commerce; but so far am without a reply. Still, I have succeeded in getting from other sources a good deal of valuable information for the commissioners, which I am trying to get into form, and I hope to be able to forward this to you at an early day. I must confess, however, that I am not sanguine that I shall have it in my power to furnish them with an entirely satisfactory report in response to their interrogatories, but I will do my best to meet your and their wishes.

I make this statement for the information of yourself and the commissioners, and trust that it will satisfactorily explain why I have not as yet been able to furnish the answer required in your above-named circular.

I have, &c.,

BENJAMIN MORAN.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

B.

LEGATION OF THE UNITED STATES,
Lisbon, January 9, 1877.

SIR: Referring to your circular of the 18th September, 1876, asking for information in regard to the coinage, &c., of this country, for the use of the United States Monetary Commission of 1876, and to my No. 105 of the 1st December last, in which I explained the difficulty I had to encounter in the performance of your instructions, I have the honor to forward herewith two copies of a pamphlet in the Portuguese language, expressly prepared and printed by the Chamber of Commerce of Lisbon in reply to the interrogatories contained in the circular of the Monetary Commission addressed to the representatives of the United States in foreign countries.

The great labor voluntarily assumed by Mr. Henrique de Barros Gomes in compiling this valuable document, and the generosity of the Chamber of Commerce in printing it at their own expense, is an evidence of good feeling toward the United States which deserves to be widely known. I have thanked Mr. Gomes and the Chamber of Commerce in my own name for this disinterested service, and I trust that this step on my part will meet with your approval.

As the Monetary Commission must soon report, I hasten to forward copies of this valuable pamphlet for their use, but regret that I have not

time to have the work translated in season to go by this mail. I will have this done immediately, and forward the English version of the report as soon as completed.

Up to the present, I have not received a reply to my note to Mr. Corvo of the 25th of October, inclosing to him interrogatories and requests addressed to the chief officers of the mint, for such information as they could supply relative to the monetary system and coinage of the realm, for the use of the commission. I have reason to believe that I shall get this reply in a few days, when I will draw up a final report and forward all the documents I can procure on the subject to the Department. These shall be accompanied with such translations and explanations as I may be able to give.

I have the honor to be, sir, your obedient servant,

BENJAMIN MORAN.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

C.

LEGATION OF THE UNITED STATES,
Lisbon, February 21, 1877.

SIR: Referring to your circular of the 18th of September, 1876, and to my Nos. 105 (A) and 118, (B,) touching the information requested of me in regard to the coinage, &c., of this country, for the use of the United States Monetary Commission of 1876, I have now the honor to forward herewith the replies of the chief officer of the Portuguese mint to the six interrogatories which I submitted to him through Mr. Corvo.

I inclose, for the sake of convenience at this point, copies of my note to Mr. Corvo on the subject of the 25th October, 1876, of his replies, dated respectively the 23d of November, 1876, and the 7th of February, 1877, and of my note of thanks to him of the 17th instant.

The first interrogatory of the commissioners addressed to the chief officer of the Portuguese mint, is answered by the pamphlet marked B, (regular inclosure herewith, No. 15, and of a summary in English, No. 16, of the earliest and latest Portuguese legislation on the finding and working of mines.)

The second is answered by the note from the department of mines, (inclosures Nos. 7 and 8,) and orders in council Nos. B 1, B 2, B 3, B 4, B 5, B 6, and B 8, herewith, being inclosures in Nos. 7 and 8.

The third is answered by a note from the department of mines, (inclosures 11 and 12,) "that the Portuguese in Brazil still work as in former times, when gold was extracted from the shores of the Tagus."

The fourth is answered by the letter of the chief officer of the mint, José de Saldanha, No. 216 of 20th December, 1876, (see inclosures 7 and 8,) and its inclosures, and by the note attached thereto. The letter in question, as above mentioned, incloses a number of laws relating to coinage.

The fifth. The reply to this is that the latest regulations as to the metallic standard of value in Portugal are contained in the papers mentioned in the replies to interrogatories 2 and 4; and as to mining, in the papers alluded to in reply to question 1.

There is, also, a proposal for legislation on this subject now before the Cortes, reference to which is made in the note of José Antonio Gomes Lagas, of 23d January, 1877, a copy and a translation of which are inclosed herewith, marked 9 and 10.

The nine interrogatories and their subdivisions, addressed to me by the commission, as the representative of the United States in Portugal, are nearly all answered in great detail by Sñr. Henrique de Barros Gomes, in the pamphlet prepared by him, in reply to the said interrogatories, and published by the Chamber of Commerce of Lisbon. I forwarded to you two copies of this pamphlet, in my No. 118 of the 9th of January last, and I now inclose two additional copies of the same, together with an English translation of the entire work.

The only one of the questions which has not been fully answered is D, under the second interrogatory. Señor de Barros Gomes says the elements do not exist to make a reply to this question. There are, however, large quantities of gold and silver in the form of jewelry and domestic plate in Portugal, particularly in the north, where even the peasant women, who generally go about barefooted, may be seen with gold chains about their necks; and this remark applies with equal truth to the barefooted fisherwomen of Lisbon. Nearly every family with any claims to respectability has some silverware in the way of tea or coffee pots, but it is simply impossible to say how much of this personal jewelry and domestic silver ware is susceptible of being converted into coin.

Although the Monetary Commission have no doubt made their report long before this, and the information I have the honor now to forward can be of no use to them because of the delay which attended its transmission to me, I entertain the hope that it may be of service to the Government. It is certainly valuable, and contains a great many useful facts, which may be worthy of serious attention. At all events, it sets forth in a clear light the monetary system and coinage laws of Portugal, and gives many curious incidents in the history of the monetary legislation of the kingdom, not generally known in foreign countries. The statements in the note of Señor João Baptista Schiappa d'Azevedo, of 29th of December, 1876, (inclosure 11 or 12,) in regard to gold-washings in the rivers Tagus, Mondego, Douro, and their affluents, and the curious facts about the searches of the Moors for natural deposits of gold, are very interesting. But they do not show that gold has ever been, or is now, found in Portugal in any appreciable quantity, although they establish the fact that gold-washing was pursued as a calling in the Tagus down to the year 1833. It is also interesting to learn that silver is found in the lead and zinc deposits in Portugal, although not in large quantity.

For the use of the Department, I annex a correct descriptive list of all the inclosures herewith.

As this government and the Lisbon Chamber of Commerce, as well as Sñor Henrique de Barros Gomes, have voluntarily assumed a great amount of labor in preparing the replies required by the Monetary Commission, I trust that I may be instructed to thank them on behalf of the Department for their services and for the valuable information they have supplied.

I have the honor to be, sir, your obedient servant,

BENJAMIN MORAN.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

[Inclosures.]

1. Mr. Moran to Mr. Corvo, October 25, 1876, (D.)
2. Mr. Corvo to Mr. Moran, November 23, 1876, (E.)

3. Translation of the above, (F.)
4. Mr. Corvo to Mr. Moran, February 7, 1877, (G.)
5. Translation of the above, (H.)
6. Mr. Moran to Mr. Corvo, February 17, 1877, (I.)
7. Letter of master of the mint, (No. 216,) December 2, 1876,) (J.)
8. Translation of the above, (K.)

[Inclosures in the above.]

K 1. Order of treasury of 1747, (Portuguese,) and (K 2) translation.
K 3. Order of government of October 29, 1811, for coining bronze patachos, (Portuguese,) and (K 4) translation.
K 5. Law of April 24, 1835, on gold and silver coinage, (Portuguese,) and (K 6) translation.
K 7. Law of January 30, 1851, on legal currency of foreign gold, (Portuguese,) and (K 8) translation.
K 9. Law of February 15, 1851, on coinage, (Portuguese,) and (K 10) translation.
K 11. Copy of law of July 29, 1864, on weight, &c., of gold corvas, half-corvas, &c., (Portuguese,) and (K 12) translation.
K 13. Statistics of gold, silver, copper, and bronze coinage from January 7, 1752, to December 31, 1871.
K 15. Treasury order of October 6, 1710, as to payment of gold to those selling it, (Portuguese,) and (K 16) translation.
K 17. Statements of the gold coined in virtue of law of July 29, 1854, up to September 30, 1874.
K 19. Statements of the silver coined by laws from August 1, 1854, to September 30, 1854.
K 21. Statements of the copper coined by laws from July 1, 1865, to September 30, 1874.
K 23. General statement of the relative value of old silver coins withdrawn from circulation by the law of July 29, 1854, up to September 30, 1874.
K 25. Treasury to foreign office on gold and silver mining in Portugal, January 23, 1877.
K 26. Translation of the above.
K 27. Report from the department of mines December 29, 1876.
K 28. Translation of the above.
K 29. Minister of public works to minister of finance on mining laws, December 29, 1876.
K 30. Translation of the above.
K 31. Mining laws of Portugal, Pamphlet B.
K 32. Summary of above mining laws, translation.
K 33. Pamphlet of the Association of Commerce of Lisbon, in reply to the United States Monetary Commission of 1876.
K 34. Translation of the above.

F.

[Inclosure 3 in No. 127.—Translation.]

Mr. Corvo to Mr. Moran, November 23, 1876.

MINISTRY OF FOREIGN AFFAIRS, DIRECTION OF CONSULATES AND COMMERCIAL AFFAIRS.

I acknowledge the receipt of the note which your excellency honored me with, dated 25th of last month, in which you desire me to enable you

to reply to the questions formulated by the commission organized in the United States with a view to study several points relative to monetary currency, and I beg to inform your excellency that the necessary documents for that purpose have been requested from the ministry of finance, and that I shall transmit them to your excellency immediately upon their being received at the ministry under my charge.

I avail myself of this occasion to renew to your excellency the assurance of my highest consideration.

Foreign office, November 23, 1876.

JOÃO DE ANDRADE CORVO.

Señor BENJAMIN MORAN,
&c., &c., &c.

H.

[Inclosure 5 in No. 127.—Translation.]

Mr. Corvo to Mr. Moran, February 7, 1877.

MINISTRY OF FOREIGN AFFAIRS, DIRECTION OF CONSULATES AND COMMERCIAL AFFAIRS.

I have the honor to place in the hands of your excellency the inclosed documents, which have been obtained from the competent departments, in order to answer the questions which accompanied your excellency's note of 25th October, 1876, relative to the production of precious metals, the coinage of money, the policy of a double standard, and other questions formulated by the Monetary Commission of the United States.

I avail myself of this occasion to renew to your excellency the assurances of my highest consideration.

Foreign office, February 7, 1877.

JOÃO DE ANDRADE CORVO.

BENJAMIN MORAN, Esq.,
&c., &c., &c.

I.

[Inclosure 6 in No. 127.]

Mr. Moran to Mr. Corvo.

LEGATION OF THE UNITED STATES,
Lisbon, February 17, 1877.

SIR: I had the honor to receive last evening your excellency's note of the 7th instant, together with the voluminous documents inclosed, which you were so good as to obtain from the competent departments of His Most Faithful Majesty's government in answer to the questions which accompanied my note to your excellency of the 25th of October, 1876, relative to the production of precious metals, the coinage of money, the policy of a double standard, and other questions formulated by the Monetary Commission of the United States.

Appreciating your courtesy in providing me with the valuable information contained in these documents and the great labor employed in their compilation, I return to you my most cordial thanks for them, and trust that I may soon be instructed to convey to you the acknowledg-

ments of my Government for these important communications as well as for the cheerful disposition exhibited by His Most Faithful Majesty's government in procuring them for its use.

I avail myself of this occasion to renew to your excellency the assurance of my highest consideration.

BENJAMIN MORAN.

His Excellency JOÃO DE ANDRADE CORVO,
&c., &c., &c.

K.

[Inclosure 8 in No. 127.—Translation.]

Letter of the master of the mint.

OFFICE OF THE GENERAL DIRECTION OF THE TREASURY—FIRST DEPARTMENT.—MINT AND STAMP OFFICE.—NO. 216.

SIR: In consequence of the official letter which I received yesterday, signed by your excellency, dated December 1, 1876, I hasten to inclose the following documents:

J 2. 1. Order of the treasury council August 7, 1747, creating the ancient silver coins "new cruzade," 12, 6, and 3 vintem pieces, which have since ceased to have legal currency.

J 4. 2. Order of government in the name of the Prince Regent, dated October 29, 1811, by which the so-called bronze "patachos" were made. The 30 and 20 reis pieces which were also made on approval were not accepted into the currency.

J 6. 3. Copy of the law of April 24, 1835, by which the decimal gold and silver coinage was created, and by which the coinage of 40-reis bronze money was forbidden, but that of copper money was continued.

J 8. 4. Copy of the law of January 30, 1851, ordering the carrying out of the decree of the General Cortes of January 29, 1851, that the legal currency of foreign gold coins should cease, excepting that of English sovereigns and half sovereigns, which were to continue in circulation at their present value.

J 10. 5. Copy of the law of February 15, 1851, by which dies were made for gold coins, corôas, half corôas, and fifth of a corôa.

J 12. 6. Copy of the law of July 29, 1854, regulating the weight and value of the gold "corôa, half corôa, fifth of a corôa, and tenth of a corôa;" and the weight and value of the new silver coins, &c.

J 14. 7. Copy of statistics of the gold, silver, copper, and bronze coinage from January 1, 1752, till December 31, 1871.

J 16. 8. Copy of order of treasury council regulating the payment for gold to those persons desirous of selling it, October 6, 1710.

J 18. 9. Statement of the gold coined in virtue of the law of July 29, 1854, up to September 30, 1874.

J 20. 10. Statement of the silver coined in virtue of various laws from August 1, 1854, to September 30, 1874.

J 22. 11. General statement of copper coinage authorized by various orders from July 1, 1865, to September 30, 1874.

J 24. 12. General statement of the relative value of old silver coins withdrawn from circulation by the law of July 29, 1854, up to September 30, 1874.

I think that these documents set forth the points to which your excel-

lency has directed my attention; but it is my duty also to state as follows:

1. Article 11 of the law of July 29, 1854, decrees that private persons, banks or associations can have gold coined on a payment of a thousand reis per kilogram; but it has frequently happened by order of the Cortes that the coinage has been done gratuitously. With reference to the loss of time to which the owners of bar-metal are liable, when it is brought in for coinage, and as to the time allowed for the payment of bilis and "cantelas" there is no legislative regulation; practically an old order of the treasury council regulates this.

2. There is a custom that one-third of a payment may be made in copper, but this is not so by any law.

3. In the archives of the Lisbon mint there are books with data on coinage since 1517; but it is impossible for me to furnish any earlier than 1752, which are those contained in the published statistics.

Mint and stamp office, December 2, 1876.

To his excellency the director-general of the treasury.

JOSÉ DE SALDANHA OLIVEIRA E SONZA.

Approved.

Director-general of the treasury department, January 23, 1877.

JOÑO FELIX ALZ. DE MINHAVA.

K 2.

[Inclosure in Nos. 7 and 8, in No. 127.—Translation.]

Order of treasury council, Aug. 7, 1747.

ENTRY OF AN ORDER OF THE TREASURY COUNCIL.

The commissioner of the mint is hereby informed that His Majesty, in consultation with the treasury council, January 30, 1743, upon the proposition therein made for the purchase in the mint of all the silver which shall enter there to be made into small coins, for exchanges among the people of this kingdom, up to the coin of 120 reis, has been pleased, in accordance with his royal decision of August 2, ultimo, taken in the said council, to determine that small silver coins be made as specified, including a coin of 240 reis; and moreover, in consideration of the great alteration which has arisen in the value of silver, so that at present 15 marks of silver cannot be of equal value with a mark of gold, even though in the reckoning the silver mark be supposed to be only equal to 7,040 reis, and making no allowance (as is due) for coinage and seigniory dues:

His Majesty decrees that the said small coins be worked at the rate of 13½ marks of silver, of 11 dinheiros, to one mark of gold of the current value of 96,000 reis; there being made out of each mark of silver 7,500 reis in small coins, including coinage and seigniory dues.

Let this be put in force.

Lisbon, August 7, 1747. (With the seven signatures of the ministers of the treasury council.)

Minute to the commissioner of the mint from the treasury council.

Carried out and registered.

Lisbon, Aug. 7, 1747.

SILVA.

Nothing further is contained in this order, registered by myself and delivered by me to Cartano de Sonza Carvalho, whose receipt and that of my clerk is below.

CARTANO DE SONZA DE CARVALHO.
BARROS.

LISBON, *August* 8, 1747.

K 4.

[Inclosure B 2 in 7 and 8 in No. 127.—Translation.]

Order of government October 29, 1811, *for coining bronze patachos.*

The Prince Regent, our master, taking into consideration how profitable it may be, under the present necessities of the royal treasury, to have the help of a portion of bronze coinage, which, being issued with moderation, for payments in ready money, may back the small policies, and so assist in diminishing the rate of discount, has been pleased to order that there be made in the mint of this city such a quantity of bronze coin as the conde do redondo, administrator-general of the royal exchequer, considers fitting, and proportionate to the retail trade and the monetary circulation of these kingdoms; the new coin being intended to have the value of 40 reis, and to be engraved with the effigy and legend of His Royal Highness, according to the design which has been proposed and approved. It is further the will of His Highness that the said money be current in these kingdoms, with the value above mentioned; and that no one may refuse to accept, under the penalties attaching to those who refuse to accept the King's money.

Let this be carried out in accordance with its full intents, all orders, laws, regulations, customs notwithstanding.

Palace of the government, October 29, 1811.

With the five signatures of the lords governors of the kingdom.

[Inclosure B 3 in 7 and 8, in No. 127.—Translation.]

Copy of law of April 24, 1835, *gold and silver coinage.*

LAW.

We, Doña Maria, by the grace of God Queen of Portugal, the Algarves and colonies, make known to all our subjects that the Cortes have decreed, and we sanction, the following law:

ARTICLE 1. Since the reform of the mint, and, more lately, since the 30th of June ultimo, all the silver and gold coinage which is made shall be decimal and proportioned to the value of the money now in circulation.

ART. 2. The new silver coinage shall by law be of eleven dinheiros, and worked at the rate of 7,750 reis per mark, *i. e.*, at the mean rate of the current coinage.

ART. 3. The new gold coinage shall by law be at the rate of the present, *i. e.*, of gold of 22 carats and at the rate of 120,000 reis per mark.

ART. 4. The silver coins shall be only of the value of 1,000, 500, 200, and 100 reis. The 1,000-reis pieces shall pass under the name of

"corõas," and according to the orders contained in article 2, shall weigh 8 octaves, 18 grains, and 58 cents. of a grain appromimately; so that 31 of these coins shall weigh exactly 4 marks.

The 500-reis pieces shall pass under the name of "meia-corõas," shall have half the weight of the above, and be 31 to the 2 marks.

The 200-reis pieces shall weigh 1 octave 46 grains 93 cents. of a grain more or less, and 155 of these pieces shall weigh exactly 4 marks. The 100-reis pieces shall have half the weight of the preceding ones, and 155 shall weigh exactly 4 marks.

ART. 5. The coins of 1,000 reis and of 500 reis shall have on one side the effigy of the queen; on the rim this inscription, "Maria II, Portugalæ et Algarbiorum Regina," and the date beneath the effigy; on the reverse the shield of the national arms, and below these the numbers "1,000 rs.," or "500 rs.," designating in reis their respective values. The 200-reis pieces and 100-reis pieces shall have on one side the effigy of the queen, inscription and date, as the preceding; but on the reverse shall only have two laurel branches entwined on the border, and in the midst the ciphers which denote their value, *i. e.*, 200 or 100 reis.

ART. 6. The gold coins shall only be made of the value of 5,000 reis and 2,500 reis. The first shall have currency with the name of gold corõas and shall weigh $2\frac{2}{3}$ octaves. The second shall weigh $1\frac{1}{3}$ octaves, and shall have currency under the name of half gold corõas. Thus one of the first and one of the second are together worth 7,500 reis and weigh 4 octaves, *i. e.*, the weight of the current coin of 7,500-reis pieces.

ART. 7. The gold coins of 5,000 reis and those of 2,500 reis shall have the marks and inscriptions of the 1,000-reis and 500-reis pieces, (article 5,) only with the ciphers differing according to their value, which shall be for these coins 5,000 reis and 2,500 reis.

ART. 8. The coins made in conformity with the above articles shall be current at their respective and declared value, together with the coins which are now in circulation.

ART. 9. Copper coins can be made as at present, but not the bronze 40-reis coins, of which the coinage shall cease from this date.

ART. 10. The legislation now existing as regards coins and precious metal remains in full force wherein it is not revoked by this law.

We command all the authorities to whom pertains the cognizance and carrying out of this law to fulfill it and cause its enforcement according to its full intent. The secretary of state for the treasury shall cause it to be printed, published, and put in force.

Given at the palace of Necessidades April 24, 1835.

The Queen.

JOSE DA SILVA CARVALHO.

Law by which your Majesty having sanctioned the decree of the Cortes of April 18, 1835, establishing the form, weight, and names of the decimal coins of gold and silver, to be made after the reform of the mint; or more lately, after June 30, ultimo, forbidding henceforth the coinage of brass money.

Ordered to be fulfilled and observed according to its full intent as set forth above.

Done, for the approval of your Majesty, by—

CAETANO XAVIER DINIZ, *Junior.*

K 8.

[Inclosure B 4, in 7 and 8, in No. 127.—Translation.]

Law of January 30, 1851, on the legal currency of foreign gold.

LAW.

We, Doña Maria, by the grace of God Queen of Portugal and the Algarves, &c., make known to all our subjects that the Cortes General have decreed, and we sanction, the following law:

ARTICLE 1. That foreign gold coin of whatever kind cease to pass current on the continent of the kingdom; excepting only English sovereigns and half-sovereigns, which shall continue current at their present value, viz, 4,500 reis and 2,250 reis.

§. This article shall come into force in Lisbon eight days after the publication of this law; and in the provinces, fifteen days after its publication.

ART. 2. During the periods fixed above, and for three days beyond them, the government shall exchange the gold coins put out of circulation, others having legal currency.

ART. 3. The duty of 100 reis now paid on rough silver, bars, fragments, and broken articles of silver, is raised to 1,000 reis per mark.

ART. 4. The government will take the measures requisite for putting this law in force.

ART. 5. All legislation to the contrary is repealed.

Moreover, we command all authorities to whom pertains the cognizance and carrying out of this law, to fulfil, observe, and cause the fulfilment of it according to its full intention.

The counsellor of state, minister and secretary of state for the treasury, shall cause it to be printed, published, and put in force.

Given at the palace of Necessidades on the 30th of January, 1851.

The Queen.

[SEAL OF THE ROYAL ARMS.] ANTONIO JOSÉ D'AVILA.

Law by which your Majesty, sanctioning the decree of the Cortes of January 29, 1851, placing foreign gold money out of circulation, excepting English sovereigns and half-sovereigns, which shall continue current at their present value, and raising the duty on bar-silver, &c., from 100 to 1,000 reis.

Done, for the sanction of your Majesty, by me.

ERNESTO DE FARIA.

K 10.

[Inclosure B 5, in 7 and 8, in No. 127.—Translation.]

Copy of law of February 15, 1851, on coinage.

LAW.

We, D. Maria, by the grace of God Queen of Portugal and the Algarves, &c., make known to all our subjects that the Cortes General have decreed, and we sanction, the following law:

ARTICLE 1. The corôas and half-corôas of gold ordered to be coined by the law of April 24, 1835, with the value of 5,000 reis and 2,500 reis, shall be made from this date of 22-carat gold; shall weigh, the former 2½ octaves, and the latter 1¼ octaves.

§. The government shall be empowered to order the coinage of fifths of the corõa in gold, of the same carat, of 1,000 reis value, and ½ octave weight.

ART. 2. Gold coins are to be considered to have legal weight when weighing, as compared with the weight fixed by law, one grain in excess or deficiency in each gold corõa or half corõa; or a quarter of a grain in each fifth of a corõa of gold.

ART. 3. The gold corõas and half-corõas coined already, in accordance with the law of April 24, 1835, cease to be legal tender; the government shall order that they be exchanged at the rate of 2,000 reis per octave.

ART. 4. The total value of the gold money coined in consequence of this law shall not exceed that of the money withdrawn from circulation in virtue of the law of January 30 ultimo.

ART. 5. All legislation to the contrary is repealed.

Moreover, we order the authorities to whom pertains the cognizance of and execution of the said law to fulfill, observe, and cause the fulfillment of it according to its full intention. The counselor of state, minister and secretary of state for the treasury, shall cause it to be printed, published, and put in force.

Given at the Palace of Necessidades, February 15, 1851.

The Queen.

[SEAL OF ROYAL ARMS.] ANTONIO JOSÉ D'AVILA.

Law of February 14, 1851, establishing weight of corõas and half corõas of gold, and withdrawing those in circulation; exchanging the latter at the rate of 1,000 reis per octave, and limiting the coinage to the value of the coins called in.

Done, for your Majesty's approval, by

SILVESTRE CARLOS PEREIRA.

K 12.

[Inclosure B 6 in 7 and 8 in No. 127.—Translation of law of 29th July, 1854.]

COINAGE.

Charter of law of July 29, 1854.

We, Don Fernando, King-Regent of Portugal, the Algarves, &c., in the name of the King, make known to all subjects of His Majesty that the Cortes General have decreed and we will the following law:

ARTICLE 1. Gold coins of the assay of 916⅔ per thousand, called crowns, (corõas,) shall have the weight of 17 grams, 735 milligrams, and shall represent the value of 10,000 reis.

§ i. The "half-corõas" of the same metal and assay shall have the weight of 8.868 grams, and shall represent the value of 5,000 reis.

§ ii. The "fifth of a corõa" of the same metal and assay shall weigh 3.547 grams, and represent the value of 2,000 reis.

§ iii. There shall be coined "tenths of a corõa" of the same metal and assay, which shall have the weight of 1.774 grams, and represent the value of 1,000 reis.

ART. 2. The old gold coins, called "pecas," (pieces,) of the assay of 916⅔ per thousand of fine gold, shall continue to be received as legal-

tender, with the value of 8,000 reis, provided that they have the weight of 14.188 grams.

§ o. The half pieces of the same metal and assay shall also continue to be received as legal-tender, with 4,000 reis value, provided that they have a weight of 7.094 grams.

ART. 3. English gold coins called sovereigns, of the assay of 916⅔ per 1,000 fine gold, shall continue to circulate with the value of 4.500 reis, provided that they have the weight of 7.981 grams.

§ o. The "half-sovereigns" of the same metal and assay shall also continue in circulation with the value of 2,250 reis, provided that they have the weight of 3.99 grams.

ART. 4. In all coins alluded to in the above articles the state recognizes an allowance (tolerancia) of two per thousand in weight; two per thousand in assay.

ART. 5. One hundred and twenty grams of bar-silver at the assay of 916⅔ per 1,000 fine silver shall be divided into coins as follows:

§ i. Into 10 pieces, each of which shall weigh 12.5 grams, shall represent 500 reis value, and shall be denominated "five testoons," (cinco tostões.)

§ ii. Into 25 pieces, each of which shall weigh 5 grams, shall represent 200 reis value, and shall be denominated "two testoons," (dois tostões.)

§ iii. Into 50 pieces, each of which shall weigh 2.5 grams, shall represent 100 reis value, and shall be denominated "one testoon," (tostão.)

§ iv. Into 100 pieces, each of which shall weigh 1.25 grams, shall represent 50 reis value, and be called a half-testoon.

ART. 6. The gold coins referred to in article 1 shall continue to be coined with the same form and die which those have which correspond with them, differing only in the image and inscription which marks the new reign.

The silver coins of 500 reis shall have on one side the likeness of the king; on the rim this inscription, Petrus V, Portugaliæ et Algarbiorum Rex; and below the effigy, the date of coinage. On the reverse, it shall have a shield of the national arms; and beneath, the number 500, denoting its value in reis.

The coins of 200 reis and 100 reis shall, like those above, have the king's likeness, inscription, and date on one side; on the other side, only two laurel branches interwoven and in a line with the rim, and in their center the numbers 200 or 100, denoting their several values in reis.

The coins of 50 reis shall have on one side a crown, and around it the same inscription as the above as well as the date; on the reverse, only the two interwoven olive branches, and in their center the number 50, denoting their value in reis.

ART. 7. In the coins referred to in article 5, there is permitted a (tolerancia) allowance of 3 per 1,000 in weight and of 2 per 1,000 in assay.

ART. 8. The gold corõas (crowns) and their parts, coined in virtue of the charter of law of February 15, 1851; the silver coins, called "corõas" (crowns) and their parts, coined by charter of law of April 24, 1835; those called "new cruzades" and their parts, and the old 100-reis and 50-reis pieces; as also foreign silver coins, whose circulation is now legally authorized, shall lose the quality of legal tender at the end of two months in Lisbon, at the end of four months in the provinces, reckoned from the date of the present law.

§ i. During the period mentioned in this article and for thirty days

afterward, the government is bound to exchange for legal money the coins referred to in this article at their nominal value, provided that they have not been clipped.

§ ii. During the whole period denoted in the preceding section for the exchange, the gold or silver coins withdrawn from circulation in virtue of the regulations of this article shall be accepted in the public coffers in all payments to the state, as legal tender.

ART. 9. In no payment, whatsoever may be its amount or the nature of the obligation whence it arises, shall a creditor be obliged to accept more than 5,000 reis in the silver coins ordered to be struck in virtue of the regulations of article 3.

§ o. This regulation extends to obligations contracted before the publication of this law, even in cases defining payment in gold or silver, or when the kind of money in which they must be met has been stated.

ART. 10. At the end of the space of three months as regards the Bank of Portugal, and of four months as regards the Commercial Bank of Porto, bank-notes shall only represent gold coin, and shall only be payable in that coin.

§ o. This regulation does not at all affect what may now be the custom in reference to notes for copper payments.

ART. 11. Private persons, banks, or associations of whatever sort can order the coinage in the mint of any portion of gold of 916⅔ per 1,000 of fine gold assay, in corōas, half-corōas, fifths of corōas, or the tenths of corōas, on the payment of 1,000 reis on every kilogram.

ART. 12. The state reserves the exclusive right of coining and issuing the subsidiary coins of silver and copper.

§. No issue whatever of silver or copper coins can be effected until the amount has been fixed by the Cortes. This regulation, however, will only come into effect, as regards the silver coinage, on and after January 1, 1855. A monthly account must be published in the Diario do Governo of silver coined previously to the arrival of that day.

ART. 13. The government shall present to the Cortes, in the session of 1855, a circumstantial report setting forth the amount of the gold and silver coins exchanged in the treasury, the cost and value of the gold and silver coins that have been struck, defining their respective values, and all operations whatever which have taken place in order to give effect to the regulations of this law.

ART. 14. All legislation to the contrary is revoked.

We further command all authorities to whom pertain the cognizance of and execution of this law to cause it to be as fully fulfilled and observed as it is herein set forth. The minister and secretary of state for the treasury shall cause it to be published, proclaimed, and made current.

Given at the court of the Necessidades on the 29th day of July, 1854.

King-Regent.

ANTONIO MARIA DE FONTES PEREIRA DE MELLO.

K 14.

[Inclosure B 7 in 7 and 8 in No. 127. See inclosure 7.]

Statistics of gold, silver, copper, and bronze coinage from January 1, 1752, to December 31, 1871.

Destination: For the kingdom proper.

Years.	Coinage of gold and its value.														
	6$400	3$200	1$600	1$200	800	480	7$500	3$750	8$000	5$000	2$500	2$000	1$000	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.*	
1752	104:635	13:652	20:742	24:835	27:514	44:076								8:003 5 4 0	819:827$280
1753	273:313	3:558	1:604		4:068	2:432								17:261 5 5 36	1:767:768 960
1754	236:324	3:226			2:039									14:886 4 6 0	1:524:428 000
1755	174:227				3:873	13:947								10:982 6 3 0	1:124:845 760
1756	200:201	1:532	1:134	2:894	5:131	4:418								12:680 6 3 0	1:297:701 440
1757	206:144	3:085	472	726	1:102									12:918 2 2 0	1:331:701 600
1758	199:787	615	1:427	1:143	1:490	1:420								12:558 7 5 0	1:286:133 200
1759	8:957			373	524	887								572 0 3 36	58:617 360
1760	364:394	833	801	1:100	1:965	3:605								22:849 0 6 0	2:340:691 200
1761	209:185	1:310	973	1:033	1:269	1:979								13:156 6 4 0	1:347:737 520
1762	13:388													836 0 3 36	85:683 200
1764	441:571		4:311	2:342	1:363	3:663								27:732 7 3 0	2:838:491 040
1765	133:142		1:136	2:079	4:864	4:845								8:421 2 6 48	862:638 000
1766	177:766				1:448	901								11:118 2 0 6	1:139:293 280
1767	5:736													357 6 2 0	36:710 400
1768	266:646	637		2:279	3:072	6:714								16:752 6 5 6	1:716:987 920
1769	75:731		1:432	2:822	4:828	5:917								4:850 0 6 6	497:058 560
1770	148:311	785	876	886	3:155	5:880								9:357 0 6 36	959:513 600
1771	100:943		1:494	1:908	3:159	4:253								6:394 5 2 36	655:283 840
1772	144:547		1:011	678	2:550	2:965								9:085 1 1 0	930:995 200
1773	81:394		1:066	1:344	2:623	2:847								5:148 4 3 54	527:704 960
1774	69:367		1:232	1:315	3:161	4:584								4:408 7 3 15	452:227 120
1776	118:023	3:125	7:354	10:288	18:037	26:598								7:965 4 7 49	816:655 840
1777	1:962				1:319									132 5 3 36	13:612 000
1778	85:681	3:013	4:098	5:080	12:940	9:125								5:723 3 0 13	585:384 800
1779	47:054		1:643	2:143		8:584								3:030 2 2 18	310:466 320
1780	67:283		1:880	2:776	8:682	6:191								4:371 0 4 67	446:835 680
1781	78:377		1:670	2:176	5:140	6:024								5:017 4 6 8	513:899 520
1782	41:528		351		1	4:145								2:617 3 3 30	268:331 200
1783	58:207		1:819	1:761	1:563	6:070								3:723 0 3 36	381:712 400
1784	2:607	1:184	2:766	3:589	6:206	6:659								363 7 0 69	37:367 120
1785	49:951		6			7:950								3:157 7 2 60	323:512 000
1786	3:804					3:428								253 3 3 36	25:991 040
1787	35:633		771	2:248	5:011	8:439								2:342 5 4 60	240:041 920
1789	24:607	887	177	2:213	6:749	14:135								1:710 2 7 9	175:446 000

1790	33:600		4:051	4:498	8:159	22:425								2:381	7	4	32	244:210 400
1791	19:354		408											1:214	2	1	0	124:518 400
1792	46:930			2:861	1:881									2:977	2	2	36	305:290 000
1793	5:138		1:362		5:044	8:705								422	4	1	0	43:276 000
1794			1:127	2:609	3:850	8:248								116	6	6	36	11:973 040
1795			1:117	2:657	7:750	10:602								158	3	5	0	16:264 560
1796	56:894	775	2:828	5:600	5:922	14:476								3:799	7	0	36	389:532 480
1797	435													27	1	3	36	2:784 060
1798	2:545				2:407	4:448								198	1	3	0	20:348 640
1799	106:740				8:955	10:884								6:790	1	3	0	695:524 320
1800	45:031			1:918										2:834	2	3	22	290:500 000
1801	35:094			1:801		4:127								2:233	2	2	0	228:743 760
1802	30:315		963			9:829								1:953	6	6	57	200:274 720
1803	18:283			3:214	3:832	8:695								1:249	6	4	36	128:107 200
1804	476				2:197	9:691								92	3	0	0	9:455 680
1805	27:275	74	143		3:278	6:716								1:765	7	0	36	180:871 680
1806	40:825													2:548	1	1	0	261:280 000
1807	35:969	483	800	1:319	5:253	8:857								2:370	3	2	0	243:063 760
1808	26:570													1:657	2	6	36	170:048 000
1809	12:957	1:541	3:425	3:471	6:537	4:022								1:020	7	6	0	104:661 360
1810	3:055													190	5	1	0	19:616 000
1811	1:247													77	5	4	0	7:980 800
1812	35:185													2:191	7	7	36	225:184 000
1813	5:590													349	2	1	0	35:776 000
1814	021													1	2	5	6	134 400
1815	305													19	0	5	54	1:952 000
1817	620													38	6	3	0	3:968 000
1818	291	100	1:804	3:144		4:401								106	1	4	4	10:954 080
1819	1:722	1:700	1:523	1:247	5:536	1:387								248	5	3	36	25:488 560
1820	1:687	242	041	270	082	200								118	2	4	10	12:122 400
1821	391	196	270	275	286	266								41	3	6	42	4:248 080
1822	305						302:432	14:160						19:353	0	4	33	2:323:292 000
1823							269:601	4:411						16:978	6	6	67	2:038:548 750
1824							1:553							96	7	7	48	11:647 500
1826							10:883							681	7	0	24	81:622 500
1827								1:713						53	3	0	36	6:423 750
1828							1:255	242						86	1	1	46	10:320 000
1830							2:274	525						158	1	5	16	19:023 750
1831							1:618	225						107	7	5	34	12:978 750
1833							1:265	504						96	3	2	17	11:602 500
1834							31:097							1:999	5	1	12	239:977 500
1835							2:989							186	6	4	0	22:417 500
1836							4:318							269	3	3	54	32:385 000
1837							1:317							82	1	2	0	9:877 500
1838										2:410	1:114			123	4	5	2	14:835 000
1840										1:043	659			57	1	2	7	6:862 500
1845										401				16	5	4	57	2:065 000
1847									809					50	4	2	48	6:412 000
1851										57:319	58:327		12:099	3:476	0	3	70	444:511 500
1853											1:010		42	20	0	0	68	2:567 000
1855													6:100	47	1	2	52	6:100 000
1856												37:675	61:957	1:060	1	6	61	137:307 000

Statistics of gold, silver, copper, and bronze coinage, &c.—Continued.

Years.	Coinage of gold and its value.														
	6$400	3$200	1$600	1$200	800	480	7$500	3$750	8$000	5$000	2$500	2$000	1$000	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.*	
1857												44:386		685 4 3 3	88:772 000
1858												12:590		194 2 2 8	25:180 000
1859												15:925		245 6 1 5	31:850 000
1860										52:340		52:974		2:840 1 1 70	367:648 000
1861										81:019				3:130 2 5 55	495:095 000
1862										68:419				2:643 6 4 67	342:095 000
Total														364:682 6 2 13	
														Kilograms.	
1862										97:513				864, 5509	487:565 000
1863										37:632				333, 5498	188:160 000
1864										19:280		101:400		529, 3609	299:200 000
1865												95:250		336, 8523	190:500 000
1866												85:750		303, 6359	171:500 000
1867										45:200		48:000		570, 5221	322:000 000
1868										67:200		16:500		652, 8217	369:000 000
1869										77:400		10:500		722, 9235	408:000 000
1870										60:600		500		538, 4193	304:000 000
1871										46:700		1:500		419, 2455	236:500 000
Total	4:845:366	42:553	82:088	114:815	215:815	360:660	631:502	21:840	809	714:476	61:110	522:950	80:198	5:271, 8619	41.437:289$600

Statistics of gold, silver, copper, and bronze coinage from January 1, 1752, to December 31, 1871—Continued.

Destination: For the kingdom proper.

Year.	Coinage of silver and its value.											
	20	60	120	240	480	50	100	200	500	1:000	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.* 3:857	*Quantity.* 25:073	*Quantity.*	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.* 10:144 6 2 36	76:270$050
1752		10:679	43:991	281:876							1:328 7 7 0	9:971 160
1753		5:548	11:137	34:591							92:342 6 7 38	694:468 870
1769	31:300	231:316	276:256	1:192:305	656:498	273:765	318:527				10:336 2 0 0	77:736 000
1770				38:250	142:825						282 5 7 0	2:124 720
1771				2:983	2:935						312 7 1 0	2:351 400
1773			1:927	8:834							6:185 2 0 42	46:466 920
1774		18:145	48:544	30:961	56:500	22:354	38:846				6:347 1 2 0	47:766 180
1775		64:479	50:658	44:603	38:132	84:966	45:621				734 2 2 0	5:523 940
1778		10:464	8:038	4:476	1:725	10:606	14:990				8:112 2 1 0	60:901 920
1779					126:879						31:447 6 2 71	236:034 720
1780		32:663	101:020	210:552	346:757	40:924	29:305				44:008 1 7 0	330:199 620
1781		1:463	20:108	213:376	576:018						74:169 0 3 18	556:367 510
1782		53:999	50:348	58:002	1:097:251	39:417	45:140				1:004 3 4 0	7:535 040
1783			13:022	18:385	3:250						14:238 4 2 45	106:874 910
1784		33:085	74:846	85:483	145:639	21:363	44:175				1:223 0 0 45	9:179 760
1785				15:673	11:288						1:236 2 3 0	9:280 910
1786		14:358	27:375	7:294	2:039	16:769	15:667				200 0 5 0	1:503 180
1787		25:053									1:124 4 4 0	8:448 450
1788		25:226	12:602	6:405	1:620	31:971	15:093				1:082 7 5 0	8:151 510
1791		14:205	12:919	5:733	2:312	34:245	15:510				1:768 1 6 0	13:314 420
1792		27:607	26:914	6:218	6:750	30:412	21:754				35:930 4 7 49	269:882 390
1793		25:269	18:815	95:586	499:617	28:829	19:102				22:150 5 2 48	166:341 120
1794				19:288	336:901						45:868 7 2 66	344:510 940
1795		17:497			715:544						31:496 5 7 36	236:544 390
1796		29:600	12:527	6:698	476:346	30:117	15:057				58:711 6 5 34	438:309 280
1797		33:368			1:013:140						88:297 5 1 45	663:257 310
1798					1:376:187	27:465	13:143				50:636 6 6 9	380:377 900
1799		100:714	50:268	36:099	724:663	115:932	60:043				28:815 4 2 53	216:800 540
1800	9:907		17:374	18:747	437:538						13:327 0 4 24	100:041 580
1801		25:099	12:695		195:888	28:964	15:378				18:434 6 4 69	138:468 520
1802		25:676	25:922	6:615	265:369	34:514	31:269				1:074 2 1 24	8:076 110
1803		26:218			10:121	32:899					10:760 4 0 0	80:881 700
1804		32:770	12:645	7:171	153:737	7:400	15:133				2:649 5 1 32	19:902 720
1805					41:464						7:480 2 0 36	56:226 250
1806		22:176			111:778	24:845					23:368 5 4 31	175:958 690
1807					363:903	21:119	2:293				267:783 2 7 19	2:044:466 880
1808					4:259:306						108:985 2 1 29	819:047 820
1809		82:239	47:858	21:943	1:659:105	50:988	37:344					

Statistics of gold, silver, copper, and bronze coinage from January 1, 1752, to December 31, 1871—Continued.

Year.	Coinage of silver and its value.													Total value.
	20	60	120	240	480	50	100	200	500	1:000	Weight.			
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Marcos.*	*oz.*	*dr.* *gr.*	
1810					796:569						50:784	1	1 38	382:353 120
1811		11:212	6:385		959:652						61:324	4	0 42	462:071 880
1812					2:796:826	17:306	9:296				178:618	0	2 59	1:344:271 380
1813					3:853:067						246:347	3	3 63	1:849:472 160
1814		30:212	15:018	7:305	4:296:445	35:346	15:371				275:989	0	0 0	2:070:966 000
1815					5:097:250						326:045	6	4 0	2:446:680 000
1816					4:938:326						315:741	7	1 0	2:370:396 480
1817					5:103:030						325:952	2	0 42	2:449:454 400
1818		15:013	24:453	21:384	2:337:338	38:996	29:792				151:155	3	0 36	1:135:818 540
1819		24:879	25:356	23:997	1:432:360	26:311	16:378				93:320	7	5 36	700:780 890
1820		3:243	1:855	2:818	1:844:793	3:099	1:918				118:137	1	4 0	886:940 890
1821		7:451	4:608	2:293	1:936:864	9:936	4:955				124:223	2	6 0	932:237 360
1822		2:014	13:755	6:483	567:659		6:423				36:536	6	6 0	276:445 980
1823		13:465	11:298	8:220	667:087	5:756	7:500				43:272	5	2 0	325:376 020
1824		2:898	3:671		2:556	3:300					265	7	0 0	2:006 280
1825		15:468	8:700	3:541	28:471	14:629	9:884				2:412	4	7 0	18:207 850
1826		6:953	5:788	1:404	257:045						16:595	5	4 0	124:830 300
1827					7:132						456	1	2 0	3:423 360
1828		11:704	4:612		134:494		3:695				8:803	7	0 28	66:182 300
1829		2:829	2:286	8:584	22:422	2:353	1:351				1:636	3	4 0	12:319 530
1830		12:838	7:052	6:594	29:035	7:964	4:940				2:705	7	5 67	18:100 080
1831					65:351						4:171	2	2 48	31:368 480
1832		8:479	4:079		108:187						7:023	6	6 36	52:927 980
1833				2:258	798:008						51:015	1	2 24	383:585 760
1834					1:864:278						119:093	5	1 0	894:853 440
1835					3:433:258						219:381	3	5 42	1:647:963 840
1836					829:215						52:863	5	7 18	398:023 200
1837					193:944						12:771	3	7 18	96:021 120
1838							1:544	2:177	1:266	2:295	756	6	4 55	5:871 300
1839							961	596	2.645	3:959	161	7	7 36	1:257 300
1841								272	*2:084		1:651	0	5 54	12:810 900
1842									22:483	1:515	8:693	4	1 27	67:446 500
1843								1:181	134:893		6:811	5	5 48	52:847 700
1844									105:923		275	3	4 63	2:132 500
1845									4:265		1:383	3	0 54	10:724 000
1846										10:724	4:784	6	6 62	37:101 000
1847									74:202		49:932	1	7 38	387:293 500
1848									774:5-7		1:571	4	2 9	12:192 500
1849									24:385		3:806	3	1 27	29:496 500
1850									58:093		2:613	4	2 36	20:266 000
1851									40:532		5:879	1	3 63	45:576 500
									91:153					

1852							9:205		64:278		4:260 . 1 5 63	33:059 500
1853							66:490		21:904		2:368 1 1 54	17:601 000
1854							422:016	291:854	605:833		44:075 5 0 11	403:488 900
1855							113:147	55:853	1:209:936		68:497 7 0 7	629:376 000
1856								736:916	1:477:770		106:489 1 6 6	886:268 200
1857						6:790	42:509	522:447	1:948:538		117:922 6 0 0	1:083:348 800
1858								279:990	3:090:582		174,299 3 2 36	1:601:289 000
1859							455:030	117:165	2:659:548		150.735 5 6 0	1:398:710 000
1861						800:000	761:940	201:960			17:080 3 0 0	156:586 600
1862							38:060	37:130			1:225 0 0 36	11:232 000
Total											4:745:226 1 4 49	
											Kilograms.	
1862						17:200		656:610			3:309, 009	132:182 000
1863						215:000		345:000	148:000		3:841, 882	153:750 000
1864						30:000	160:000	75:500	341:300		5:075, 398	203:250 000
1865							100:000	50:000	406:000		5:569, 925	223:000 000
1866						20:000	10:000	10:000	378:000		4:819, 519	193:000 000
1867								10:000	458:000		5:767, 481	231:000 000
1868									330:000		4:120, 945	165:000 000
1869							10:000	5:000	58:000		774, 396	31:000 000
1870									314:000		3:919, 393	157:000 000
1871							40:000	85:000	230:000		3:374, 192	135:000 000
Total	41:207	1:157:574	1:117:325	2:568:026	60:259:687	2:276:707	3:180:868	3:484:651	15:078:100	18:493	40:572, 140	38. 432:801$630

Statistics of gold, silver, copper, and bronze coinage, &c.—Continued.

Destination: for the kingdom proper.

Year.	Coinage of copper and its value.					
	3	5	10	20	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Lbs.* *oz.*	
1752		256:057	497:108		17:181 0	6:251$365
1754		246:854	1:169:800		35:906 8	12:932 270
1757		584:306	1:114:327		38:467 8	14:064 800
1761		1:274:179	2:393:694		83:082 0	30:307 835
1764	100:000	2:346:002	3:600:720		132:595 0	48:037 210
1765		1:098.142	4:525:435		138:557 0	50:745 060
1766		669:130	2:020:865		61:712 0	23:554 300
1768		802:250			6:503 0	4:011 250
1777	689:006	785:520	1:202:371		49:552 0	18:018 328
1778		423:471	457:313		18:452 0	6:690 485
1782		139:830	360:192		11:967 0	4:301 070
1786		578:945	872:795		32:128 0	11:622 675
1792		602:026	919:296		33:298 0	12:203 090
1797		218:890	155:626		7:396 0	2:650 710
1799	9:370	33:466	219:729		6:531 0	2:392 750
1800	12:421	261:155			3:609 0	1:343 038
1801		736:966	661:048		28:888 0	10:295 310
1802		1:478:714	1:413:477		59:975 0	21:528 340
1804	123:363	209:021	148:499		8:117 0	2:900 184
1812		399:077	331:706		14:750 0	5:312 445
1813		538:979	275:671		15:150 0	5:451 605
1814		448:337	123:423		9:748 0	3:475 915
1819	1:065	10:609	806:291		22:494 11	8:119 150
1820			6:773		184 8	67 730
1822		13:446	20:754		742 0	274 770
1823		31:808	44:257		1:632 0	601 610
1824		98:394	63:979		2:977 0	1:131 760
1829		36:699	56:351		1:995 0	747 005
1831		17:778	344:680		9:470 0	3:535 690
1833			70:186		1:896 0	701 860
1835			286:505		7:534 0	2:865 050
1836		5:593	226:505		5:876 8	2:293 015
1837			360:146		9:818 9	3:601 460
1838			645:495		17:689 4	6:454 950
1839			469:323		12:970 11	4:693 230
1840		174:374	392:270		13:289 12	4:794 570
1841			475:677		13:099 6	4:756 770
1842		3:621	1:130:756		31:125 2	11:325 665
1843			837:063		23:002 11	8:370 630
1844			619:990		17:003 0	6:199 900
1845			545:412		15:062 10	5:454 120
1846			1:165:523		32:320 8	11:655 230
1847			56:876	2:483:830	138:818 0	50:245 360
1848		146:851		860:909	49:681 6	17:952 435
1849				2:268:847	124:218 0	45:376 940
1850		129:854	442:518	1:802:607	113:694 0	41:128 390
1851		50:408	1:235:899	849:574	81:103 2	29:602 510
1852		292:182	557:993	1:215:343	86:021 5	31:347 700
1853		63:332	45:591	790:611	45:401 7	16:584 790
1854		33:648		155:145	8:962 8	3:271 140
Total					1:700:642 0	
					Kilograms.	
1867		737:000			4:687, 414	3:685 000
1868	100:000	740:000			5:094, 783	4:000 000
1869		340:000			2:163, 618	1:700 000
1870		123:000			780, 235	615 000
Total	1:035:225	17:179:914	33:369:908	10:426:956	12:726, 050	631:243$445

Year.	Coinage of bronze.		
	40	Weight.	Total value.
	Quantity.	*Lbs. oz.*	
1811	162:979	13:677 8	6:519$160
1812	1:383:545	116:316 0	55:341 800
1813	1:762:364	142:608 0	70:494 560
1814	541:826	43:850 0	21:673 040
1815	117:775	9:424 0	4:711 000
1817	1:041	86 12	41 640
1819	421:985	34:737 2	16:879 400
1820	1:578:671	129:195 0	63:146 840
1821	1:574:857	123:567 12	62:994 280
1822	2:370:102	181:526 4	94:804 080
1823	2:620:741	200:440 0	104:829 640
1824	3:050:806	231:667 0	122:332 240
1825	1:123:665	84:323 0	44:946 600
1826	1:253:168	93:644 0	50:126 720
1827	1:447:130	109:260 0	57:885 200
1828	1:378:078	102:612 8	55:123 120
1829	1:678:340	123:725 8	67:133 600
1830	1:783:043	130:452 0	71:321 720
1831	1:391:283	100:004 0	55:651 320
1832	1:780:240	128:678 8	71:209 600
1833	1:631:268	116:090 0	65:250 720
1834	489:458	35:395 0	19:578 320
Total	29:542:365	2:252:179 14	1:181:694$600

Destination: for Brazil.

Year.	Coinage of gold and its value.				
	4:000	2:000	1:000	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.*	
1752	4:000	4:000	4:000	247 5 6 0	28:000$000
1753	21:650	8:000	6:000	962 5 0 16	108:600 000
1755	6:248	1:000	.....	240 0 1 0	26:992 000
1756	750	.....	.....	26 4 2 0	3:000 000
1770	3:000	4:000	4:000	213 1 4 67	24:000 000
1771	7:500	10:000	10:000	531 2 1 53	60:000 000
1772	4:000	6:300	7:400	319 1 4 0	36:000 000
1773	8:077	9:520	4:600	497 1 2 32	55:948 000
1774	2:813	1:200	6:000	174 4 5 32	19:652 000
1776	1:500	1:400	1:200	88 5 5 0	10:000 000
1778	4:500	3:600	2:816	248 4 0 6	28:016 000
1779	3:100	2:800	2:000	177 3 3 36	20:000 000
1780	2:050	1:400	1:000	106 3 3 36	12:000 000
1781	4:250	3:500	2:400	234 1 4 0	26:400 000
1783	2:000	1:500	1:000	106 3 4 0	12:000 000
1786	3:000	2:800	2:400	177 2 2 36	20:000 000
1787	2:000	1:500	1:000	106 3 6 0	12:000 000
1790	1:250	1:501	2:000	88 5 4 12	10:002 000
1792	625	750	1:000	44 3 0 36	5:000 000
1793	625	750	1:000	44 2 3 36	5:000 000
1796	625	750	1:000	44 2 4 26	5:000 000
Total	83:563	66:271	60:816	4:679 3 4 64	527:610$000

Year.	Coinage of silver and its value.					
	640	320	160	80	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.*	
1755	.....	1:371	.....	.....	57 4 6 0	438$720
1769	50:003	37:500	75:000	100:000	7:735 6 7 44	64:001 920
1770	12:500	9:375	18:750	25:000	1:932 3 0 0	16:000 0 0
1771	31:250	23:437	46:876	62:500	4:831 1 3 0	40:000 000
1773	37:476	26:955	46:450	62:222	5:444 3 3 33	45:020 000
1774	25:526	48:069	54:810	47:854	5:359 7 2 0	44:316 640
1775	15:625	15:625	17:174	28:152	2:416 4 3 0	20:000 000
1778	19:756	14:250	9:007	12:028	2:369 0 0 0	19:607 200
1779	18:750	18:750	25:000	25:000	2:905 3 4 0	24:000 000
1780	38:984	35:233	26:406	29:614	5:184 2 6 0	42:818 400
1781	30:625	27:625	32:937	28:626	4:359 0 6 0	36:000 000
1782	16:250	15:725	7:776	9:000	2:108 4 0 12	17:396 160
1783	31:250	37:500	37:500	25:000	4:844 5 2 0	40:000 000
1784	25:060	22:617	20:602	17:848	3:386 3 2 36	28:000 000
1785	33:750	34:500	36:000	20:000	4:847 1 2 0	40:000 000
1786	18:750	18:700	24:000	24:000	2:877 6 1 45	24:760 000
1787	43:125	43:125	41:250	20:630	6:015 5 2 0	49:650 400
1788	18:750	18:750	25:000	45:254	3:103 1 7 0	25:620 320
1790	6:250	9:375	12:500	12:500	1:207 5 1 47	10:000 000
1791	12:500	18:750	25:000	25:000	2:417 1 5 36	20:000 000
1792	6:250	9:375	12:500	12:500	1:207 0 3 34	10:000 000
1793	6:250	9:375	12:500	12:500	1:209 6 2 62	10:000 000
1795	14:143	21:293	29:032	29:189	2:765 3 0 0	23:845 520
1796	.....	.....	.....	62:559	606 1 3 0	5:004 720
1797	7:753	10:375	13:384	10:318	1:361 6 5 0	11:248 800
Total	520:576	527:700	649:454	747:294	80:553 1 7 61	665:728$800

Year.	Coinage of copper and its value.					
	40	20	10	5	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Lbs. oz.*	
1753	121:360	402:632	700:142	418:310	36:413 0	22:000$010
1761	216:129	.....	.....	.....	14:201 0	8:645 160
1773	.....	.....	.....	660:000	5:373 0	3:300 000
1774	225:000	1:593:502	2:020:692	1:800:000	115:194 0	70:076 960
1775	6:336	994:584	934:370	.....	48:328 0	29:448 820
1776	.....	606:544	608:195	.....	29:928 0	18:212 830
1778	182:541	566:737	767:140	574:591	48:067 0	29:180 735
1781	91:803	54:580	312:152	192:055	14:572 0	8:845 515
1782	.....	370:716	294:503	199:721	18:686 0	11:357 955
1784	90:309	423:172	189:445	389:495	26:390 0	15:917 725
1785	.....	.....	405:136	.....	6:535 0	4:051 360
1786	99:757	301:082	425:421	394:774	27:026 0	16:240 000
1787	79:286	253:587	313:540	270:144	20:855 0	12:729 300
1790	140:496	174:739	278:462	283:457	21:659 0	13:316 525
1791	52:914	173:745	100:566	402:034	14:149 0	8:607 290
1797	100:924	125:729	260:227	159:730	16:168 0	9:952 460
1800	83:051	197:858	29:157	.....	12:166 0	7:570 770
1802	583:813	787:802	611:819	.....	32:391 0	45:226 750
1803	1:143:203	1:920:150	917:546	.....	66:759 0	93:306 580
1804	.....	.....	249:573	.....	2:073 0	2:495 730
1805	.....	.....	1:248:361	.....	10:387 0	12:483 610
Total	3:216:922	8:947:159	10:666:447	5:744:311	587:320 0	443:006$085

Destination: For the Azores and Madeira.

Year.	Coinage of silver and its value.				
	300	150	75	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.*	
1795	101:383	72:306	101:008	5:197 4 0 46	48:836$400
1798	45:978	43:930	37:471	2:466 2 4 66	23:193 225
1799	20:014	20:125	17:621	1:101 1 2 0	10:344 525
Total	167:375	136:361	156:100	8:764 7 7 40	82:374$150

Year.	Coinage of copper and its value.				
	20	10	5	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Lbs. oz.*	
1796	71:696	35:791	.....	2:464 0	1:791$830
1797	11:656	24:413	38:400	1:001 0	669 250
1798	50:259	57:034	262:388	4:440 0	2:887 460
1842	41:495	250:000	.....	9:172 0	3:329 900
1844	125:000	170:000	160:000	7:100 14	5:000 000
1852	.....	267:010	.....	7:343 15	2:670 100
				31:521 13	
				Kilograms.	
1865	177:500	350:000	90:000	4:714, 442	7:500 000
1866	122:500	.....	100:000	1:562, 045	2:950 000
1868	27:500	175:000	40:000	1:623, 660	2:500 000
Total	627:606	1:329:248	690:788	7:900, 147	29:298$540

Destination: For Angola

Year.	Coinage of silver and its value.							
	600	500	400	300	200	100	Weight.	Total value.
	Quan.	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Marcos. oz. dr. gr.*	
1769	5:042	4:025	5:030	6:718	10:085	10:228	1:544 3 3 15	12:104$000
1770	13:333	6:000	5:000	10:000	10:000	20:002	2:300 7 5 0	20:000 000
1771	22:666	10:200	8:500	17:000	17:002	34:000	4:348 1 1 0	34:000 000
1783	13:333	12:000	10:000	10:000	10:001	10:000	3:075 1 7 66	24:009 000
1785	16:666	16:000	20:000	.....	30:000	.....	4:099 3 2 0	32:000 000
1789	8:334	.....	6:250	4:998	5:001	.....	1:278 5 3 33	10:000 000
1796	26:669	24:004	25:004	20:003	20:008	20:011	6:401 4 5 0	50:008 600
1804	10:000	8:000	7:500	.....	5:000	.....	1:789 7 5 0	14:000 000
Total	116:043	80:229	87:285	68:719	107:097	94:241	25:093 5 6 42	196:113$500

Year.	Coinage of copper and its value.								
	40	20	10	5	12½	25	50	Weight.	Total value.
	Quan.	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Lbs. oz.*	
1753	22:015	133:954	396:737	232:308	.....	.....	.....	14:347 8	8:688$590
1770	.....	.....	.....	400:000	268:000	133:000	66:500	19:612 0	12:000 000
1771	.....	.....	.....	533:340	280:000	140:000	86:666	22:915 0	14:000 000
1783	.....	.....	.....	.....	12:988	4:532	5:386	892 0	544 950
1785	.....	.....	.....	.....	150:980	154:186	194:263	25:416 0	15:455 050
1786	.....	.....	.....	.....	.....	157:906	81:047	13:141 0	8:000 000
1789	.....	.....	.....	.....	152:000	124:800	99:600	16:420 0	10:000 000
1819	.....	.....	.....	.....	18:029	6:110	3:175	883 3	536 862½
1851	.....	.....	.....	.....	.....	416:975	.....	17:300 0	10:424 375
1852	.....	.....	.....	.....	.....	104:344	.....	4:238 0	2:608 600
1853	.....	.....	.....	.....	.....	142:679	.....	5:884 0	3:567 975
1858	.....	.....	.....	.....	.....	226:297	.....	9:287 0	5:657 425
1860	.....	.....	.....	.....	.....	397:760	193:934	32:000 11	19:640 709
1871	.....	250:000	.....	200:000	.....	.....	.....	16:593 3	6:000 000
Total	22:015	383:954	396:737	1:365:648	881:997	2:008:589	730:571	198:909 9	117:124$527½

Destination: For Mozambique.

Year.	Coinage of gold and its value.				
	4:000	2:000	1:000	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Marcos. oz. dr. gr.*	
1755	600	600	1:200	26 5 3 36	4:800$000
1756	139	.....	.....	3 0 6 0	556 000
Total	739	600	1:200	29 6 1 36	5:356$000

Year.	Coinage of silver and its value.					
	800	400	200	100	Weight.	Total value.
	Quantity.	*Quantity*	*Quantity.*	*Quantity.*	*Marcos. oz. dr.*	
1755	1:610	2:059	3:285	4:314	255 1 3	3:200$000

Year.	Coinage of copper and its value.									
	80	40	20	10	5	3	2	1	Weight.	Total value.
	Quan.	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Quan.*	*Lbs. oz.*	
1840	10:000	20:000	40:000	.....	.....	.....	.....	.....	980 10	2:400$000
1853	.....	.....	250:000	370:000	200:000	.....	100:000	100:000	27:322 3	10:000 000
Total	10:000	20:000	290:000	370:000	200:000	.....	100:000	100:000	28:302 13	12:400$000

Destination: For St. Thomas.

Year.	Coinage of copper and its value.						
	80	40	20	10	5	Weight.	Total value.
	Quantity.	*Quantity.*	*Quantity.*	*Quantity.*	*Quantity.*	*Lbs. oz.*	
1825	13:985	24:393	27:947	.....	.....	1:059 8	2:653$460
1867	.....	.....	300:000	300:000	200:000	27:726 13	10:000 000
1868	.....	.....	415:000	420:000	300:000	38:682 7	14:000 000
1869	.....	.....	30:000	30:000	20:000	2:726 5	1:000 000
1871	.....	.....	60:000	60:000	40:000	5:483 14	2:000 000
Total	13:985	24:393	832:947	810:000	560:000	75:678 15	29:653$460

GENERAL SUMMARY.

Destination.	Weight.	Value.	
		Total.	General total.
In gold:	*Kilograms.*		
For the Continent	88:966, 5808	41. 437:289$600	
For Brazil	1:073, 9340	527:610 000	
For Mozambique	6, 8330	5:356 000	
Total	90:047, 3478	.....	41. 970:255$600
In silver:			
For the Continent	1. 129:601, 553	38. 432:801$630	
For Brazil	18:486, 970	665:728 800	
For Mozambique	58, 561	3:200 000	
For Angola	5:759, 010	196:113 500	
For the Azores and Madeira	2:011, 566	82:374 150	
Total	1. 155:917, 660	.....	39. 380:218 080
In copper:			
For the Continent	793:320, 728	631:243$445	
For Brazil	269:579, 880	443:006 085	
For Mozambique	12:990, 990	12:400 000	
For Angola	91:299, 489	117:124 527½	
For the Azores and Madeira	22:368, 659	29:298 540	
For St. Thomas	26:474, 632	29:653 460	
Total	1. 216:034, 378	.....	1. 262:726 057½
In bronze:			
For the Continent	1. 033:750, 582	.....	1. 181:694 600
			83. 794:894$337½

During the years of which no mention is made, no coinage took place.

O Director,

JQSE DE SALDANHA OLIVEIRA E SOUZA.

Casa da Moeda e Papel Sellado 1 de Julho de 1873.

Table of the weights of Portuguese coins used on the Continent, and of the several allowances of weight.

Metals.	Allowance.	Value.	Pesos. Maximum.	Legal.	Minimum.
			Grammas.		
Ouro	2 por 1000	10$000	17, 770490	17, 735000	17, 699530
		5 000	8, 885736	8, 868000	8, 850264
		2 000	3, 554094	3, 547000	3, 539906
		1 000	1, 777548	1, 774000	1, 770452
Prata	3 por 1000	500	12, 537500	12, 500000	12, 462500
		200	5, 015000	5, 000000	4, 985000
		100	2, 507500	2, 500000	2, 492500
		50	1, 253750	1, 250000	1, 246250
Cobre	2 por 100	20	26, 010000	25, 500000	24, 990000
		10	13, 005000	12, 750000	12, 495000
		5	6, 502500	6, 375000	6, 247500

Tabella do preço do ouro a razão de 563$856 *rs. o kilogramma.*

Kilogrammas.		Hectogrammas.		Decagrammas.		Grammas.		Decigrammas.		Centigrammas.	
Nos.	Valor.	Nos.	Valor.	Nos.	Valor.	Nos.	Valor.	Nos.	Valor.	Nos.	Valor.
1	563$856	1	56$385	1	5$638	1	563	1	56	1	5
2	1, 127 712	2	112 771	2	11 277	2	1$127	2	112	2	11
3	1, 691 568	3	169 156	3	16 915	3	1 691	3	169	3	16
4	2, 255 424	5	225 542	4	22 554	4	2 255	4	225	4	22
5	2, 819 280	5	281 928	5	28 192	5	2 819	5	281	5	28
6	3, 383 136	6	338 313	6	33 831	6	3 383	6	338	6	33
7	3, 946 992	7	394 699	7	39 469	7	3 946	7	394	7	39
8	4, 510 848	8	451 084	8	45 108	8	4 510	8	451	8	45
9	5, 074 704	9	507 470	9	50 747	9	5 074	9	507	9	50

Pesos maximos e minimos com que podem ser feitas na Contadoria as entregas de moeda novamente cunhada, suppondo que a quantia representada por cada entrega é a de réis 1,000$000.

	Pesos maximos.	Pesos medios.	Pesos minimos.
	Kilogrammas.	*Kilogrammas.*	*Kilogrammas.*
Ouro	1, 777047	1, 773500	1, 769953
Prata	25, 075000	25, 000000	24, 925000
Cobre	1, 300, 500000	1, 275, 000000	1, 249, 500000

K 16.

[Inclosure B 8 in 7 and 8, in No. 127.—Translation.]

Treasury-order as to payment for gold to those selling it.

[Translation of an order of the treasury-council.]

The commissary of the mint, Sebastião Lerte de Feria, is informed that when gold enters the mint and the parties wishing to sell it cannot pay the dues in money, the treasurer shall pass bills to the parties for the amount as his security, inasmuch as the payment has not been made; but which must be made as soon as possible in accordance with the royal declaration of the 4th of the present month in the letter of Secretary Bartolomen de Souza Maxia, on the presentation of the accounts of the said commissary on the 2d of the said month and year.

Lisbon, October 6, 1710, with three signatures of the ministers of the treasury-council.

Registered at Lisbon, October 6, 1710.

FARIA.

XIV, 20, 22, and 24.

[Inclosures B 9, 10, 11, 12 in 7 and 8, in No. 127.]

9. Statement of the gold coined in virtue of the law of July 29, 1864, up to September 30, 1874.

10. Statement of the silver coined in virtue of various laws from August 1, 1854, to September 30, 1854.

11. General statement of copper coinage, authorized by various orders, from July 1, 1865, to September 30, 1874.

12. General statement of the relative value of old silver coins withdrawn from circulation by the law of July 29, 1854, up to September 30, 1874.

K 18.

No. 9.—*Mappa geral do oiro que em virtude da carta de lei de 29 de julho de 1854 se tem amoedado até ao dia 30 de setembro de 1874.*

Indicação por epochas.	Em moedas			Importancia total.
	De 5$000 réis.	De 2$000 réis.	De 1$000 réis.	
Desde 12 de dezembro de 1855 até 30 de setembro de 1856	-$-	75:350$000	68:057$000	143:407$000
Desde o 1.º de outubro de 1856 até 31 de março de 1857	-$-	88:698$000	-$-	88:698$000
Desde o 1.º de abril de 1857 até 30 de setembro de 1858	-$-	25:254$000	-$-	25:254$000
Desde o 1.º de outubro de 1858 até 30 de novembro de 1859	-$-	1:600$000	-$-	1:600$000
Desde o 1.º de dezembro de 1859 até 30 de setembro de 1860	140:300$000	136:198$000	-$-	276:498$000
Desde o 1.º de outubro de 1860 até 30 de setembro de 1861	303:895$000	-$-	-$-	303:895$000
Desde o 1.º de outubro de 1861 até 30 de setembro de 1862	934:545$000	-$-	-$-	934:545$000
Desde o 1.º de outubro de 1862 até 30 de setembro de 1863	275:675$000	-$-	-$-	275:675$000
Desde o 1.º de outubro de 1863 até 30 de setembro de 1864	106:600$000	151:800$000	-$-	258:400$000
Desde o 1.º de outubro de 1864 até 30 de setembro de 1865	-$-	214:500$000	-$-	214:500$000
Desde o 1.º de outubro de 1865 até 30 de setembro de 1866	-$-	126:000$000	-$-	126:000$000
Desde o 1.º de outubro de 1866 até 30 de setembro de 1867	119:000$000	188:500$000	-$-	307:500$000
Desde o 1.º de outubro de 1867 até 30 de setembro de 1868	329:000$000	48:000$000	-$-	377:000$000
Desde o 1.º de outubro de 1868 até 30 de setembro de 1869	406:000$000	10:000$000	-$-	416:000$000
Desde o 1.º de outubro de 1869 até 30 de setembro de 1870	312:000$000	11:000$000	-$-	323:000$000
Desde o 1.º de outubro de 1870 até 30 de setembro de 1871	268:500$000	4:000$000	-$-	272:500$000
Desde o 1.º de outubro de 1871 até 30 de setembro de 1872	146:000$000	1:000$000	-$-	147:000$000
Desde o 1.º de outubro de 1872 até 30 de setembro de 1873	133:000$000	1:000$000	-$-	134:000$000
Desde o 1.º de outubro de 1873 até 30 de setembro de 1874	50:000$000	10:000$000	-$-	60:000$000
	3.524:515$000	1.092:900$000	68:057$000	4.685:472$000

Casa da moeda e papel sellado, 27 de novembro de 1874.

O chefe da contabilidade,
ANTONIO AUGUSTO PINHEIRO.

No. 10.—*Mappa geral da prata que em virtude de differentes leis se tem amoedado desde o* 1.º *de agosto de* 1854 *até* 30 *de setembro de* 1874.

Indicação por epochas e por leis.	Em moedas de				Importancia total.
	De 500 réis.	De 200 réis.	De 100 réis.	De 50 réis.	
Pela carta de lei de 29 de julho de 1854:					
Desde o 1.º de agosto até 31 de dezembro de 1854	295:872$000	58:370$800	42:201$600	-$-	396:444$400
Pela carta de lei de 8 de maio de 1855:					
Durante todo o anno de 1855	575:442$000	11:170$600	11:314$700	2:072$700	600:000$000
Pela carta de lei de 24 de abril de 1856:					
Durante todo o anno de 1856 e janeiro de 1857	845:064$500	154:596$000	-$-	339$500	1.000:000$000
Pela carta de lei de 27 de março de 1857:					
Desde o 1.º de fevereiro de 1857 até 14 de novembro de 1857	897:511$500	97:230$600	4:250$900	-$-	998:993$000
Pelas cartas de lei de 5 de março e 23 de julho de 1858:					
Desde 15 de novembro de 1857 até 30 de novembro de 1859	2.875:065$000	79:431$000	45:503$000	-$-	2.999,999$000
Pela carta de lei de 4 de fevereiro de 1861:					
Desde o 1.º de dezembro de 1859 até 30 de setembro de 1862	-$-	134:318$000	80:000$000	40:860$000	255:178$000
Pelas cartas de lei de 4 de fevereiro de 1861 e 8 de julho de 1862:					
Desde o 1.º de outubro de 1862 até 30 de setembro de 1863	22:000$000	111:822$000	-$-	10:750$000	144:572$000
Pela carta de lei de 8 de julho de 1862:					
Desde o 1.º de outubro de 1863 até 31 de maio de 1864	82:650$000	17:100$000	-$-	500$000	100:250$000
Pela carta de lei de 21 de maio de 1864:					
Desde o 1.º de junho de 1864 até 30 de setembro de 1865	176:000$000	15:000$000	8:000$000	1:000$000	200:000$000
Pela carta de lei de 26 de dezembro de 1865:					
Desde o 1.º de outubro de 1865 até 30 de setembro de 1866	283:000$000	10:000$000	6:000$000	1:000$000	300:000$000
Pela carta de lei de 26 de junho de 1867:					
Desde o 1.º de outubro de 1866 até 30 de setembro de 1867	240:000$000	1:000$000	-$-	-$-	241:000$000
Desde o 1.º de outubro de 1867 até 30 de setembro de 1868	186:000$000	1:000$000	-$-	-$-	187:000$000
Desde o 1.º de outubro de 1868 até 30 de setembro de 1869	70:000$000	1:000$000	1:000$000	-$-	72:000$000
Pelo decreto de 21 de julho de 1870:					
Desde o 1.º de outubro de 1869 até 30 de setembro de 1870	80:000$000	-$-	-$-	-$-	80:000$000
Desde o 1.º de outubro de 1870 até 30 de setembro de 1871	100:000$000	17:000$000	-$-	-$-	117:000$000
Desde o 1.º de outubro de 1871 até 2 de setembro de 1872	-$-	-$-	3:000$000	-$-	3:000$000
Pela carta de lei de 27 de setembro de 1871:					
Desde 3 de outubro de 1871 até 30 de setembro de 1872	377:000$000	12.000$000	3:000$000	-$-	392:000$000
Desde o 1.º de outubro de 1872 até 30 de setembro de 1873	2:000$000	2:000$000	4:000$000	-$-	8:000$000
Por portaria de 18 de agosto de 1874:					
Desde o 1.º de outubro de 1873 até 30 de setembro de 1874	-$-	-$-	(*a*)5:000$000	-$-	5:000$000
	7.107:605$000	723:039$000	213:270$200	56:522$200	8.1004:36$400

(*a*) Em virtude da mesma portaria que auctorisa esta amoedação, existeem deposito n'esta repartição igual quantia em moedas de 500 réis.

Casa da moeda e papel sellado, 27 de novembro de 1874.

O chefe da contabilidade,
ANTONIO AUGUSTO PINHEIRO.

K 22.

No. 11.—*Mappa geral do cobre que em virtude de differentes auctorisaçoes se tem amoedado desde o 1.º de julho de 1865 até 30 de setembro de 1874.*

Indicação por destino, por epocas e por auctorisações.	Em moedas de				Importancia total.
	20 réis.	10 réis.	5 réis.	3 réis.	
PARA O CONTINENTE.					
Por carta de lei de 26 de junho de 1867:					
Desde o 1.º de julho de 1867 até 30 de setembro de do mesmo anno	-$-	-$-	2:485$000	-$-	2:485$000
Desde o 1.º de outubro de 1867 até 30 de setembro de 1868	-$-	-$-	3:800$000	300$000	4:100$000
Desde o 1.º de outubro de 1868 até 30 de setembro de 1869	-$-	-$-	2:400$000	-$-	2:400$000
Desde o 1.º de outubro de 1869 até 30 de setembro de 1870	-$-	-$-	1:015$000	-$-	1:015$000
Por carta de lei de 10 de abril de 1874:					
Desde o 1.º de outubro de 1870 até 30 de setembro de 1874	-$-	-$-	2:900$000	-$-	2:900$000
	-$-	-$-	12:600$000	300$000	12:900$000
PARA OS AÇORES.					
Por carta de lei de 21 de maio de 1864:					
Desde o 1.º de julho de 1865 até 30 de setembro de 1865	3:000$000	1:000$000	-$-	-$-	4:000$000
Desde o 1.º de outubro de 1865 até 30 de setembro de 1866	3:000$000	2:500$000	500$000	-$-	6:000$000
Desde o 1.º de outubro de 1866 até 30 de setembro de 1867	2:450$000	-$-	50$000	-$-	2:500$000
Desde o 1.º de outubro de 1867 até 30 de setembro de 1868	550$000	1:750$000	200$000	-$-	2:500$000
	9:000$000	5:250$000	750$000	-$-	15:000$000
PARA O ULTRAMAR.					
Por portaria da direcção geral da thesouraria do thesouro publico de 9 de abril de 1867:					
Desde 4 de novembro de 1867 até 30 de setembro de 1868	12:000$000	6:000$000	2:000$000	-$-	20:000$000
Desde o 1.º de outubro de 1868 até 30 de setembro de 1869	2:900$000	1:500$000	600$000	-$-	5:000$000
Por portaria do ministerio da fazenda de 11 de outubro de 1870 e officio do mesmo ministerio de 24 de janeiro de 1871:					
Desde o 1.º de outubro de 1870 até 30 de setembro de 1871	6:200$000	600$000	1:200$000	-$-	8:000$000
Desde o 1.º de outubro de 1871 até 30 de setembro de 1872	1:000$000	3:000$000	-$-	-$-	4:000$000
Por officio do gabinete do ministro de 30 junho de 1872 e por portaria do ministerio da fazenda de 2 de junho de 1873:					
Desde o 1.º de outubro de 1872 até 30 de setembro de 1873	26:500$000	18:800$000	6:200$000	-$-	51:500$000
Desde o 1.º de outubro de 1873 até 30 de setembro de 1874	45:500$000	2:400$000	600$000	-$-	48:500$000
	94:100$000	32:300$000	10:600$000	-$-	137:000$000

Casa da moeda e papel sellado, 27 de novembro de 1874.

O chefe da contabilidade, ANTONIO AUGUSTO PINHEIRO.

No. 12.—*Mappa geral do valor representativo das moedas antigas de prata que em virtude da carta de lei de 29 de julho de 1854 se têem retirado de circulação até 30 de setembro de 1874.*

Indicação por epochas.	Por troca e por transferencia.	Por compra.	Por meio de transacções com o banco de Portugal.	Total.		Total geral.
				Em moeda miuda.	Em moeda grossa.	
Desde 29 de julho de 1854 até 30 de setembro de 1856	243:245$270	847:427$140	28:872$000	158:562$090	960:982$320	1.119:544$410
Desde o 1.º de outubro de 1856 até 31 de dezembro do mesmo anno	500$950	288:293$200	18:995$000	18:609$550	289:179$600	307:789$150
Desde o 1.º de janeiro de 1857 até 30 de junho de mesmo anno	580$770	442:116$000	38:572$500	39:153$270	442:116$000	481:269$270
Desde o 1.º de julho de 1857 até 25 de novembro do mesmo anno	455$050	388:850$000	12:000$000	12:455$130	388:849$920	401:305$050
Desde 26 de novembro de 1857 até 30 de setembro de 1858	3:029$030	1.114:800$000	37:569$670	10:889$100	1.144:509$600	1.155:398$700
Desde o 1.º de outubro de 1858 até 30 de novembro de 1859	88:149$840	1.599:000$000	-$-	73:321$440	1.613:828$400	1.687:149$840
Desde o 1.º de dezembro de 1859 até 31 de setembro de 1860	204:060$800	-$-	-$-	71:990$160	132:170$640	204:160$800
Desde o 1.º de outubro de 1860 até 30 de setembro de 1861	192:378$770	-$-	-$-	46:958$690	145:420$080	192:378$770
Desde o 1.º de outubro de 1861 até 30 de setembro de 1862	168:166$420	-$-	-$-	14:215$300	153:951$120	168:166$420
Desde o 1.º de outubro de 1862 até 30 de setembro de 1863	128:007$910	-$-	-$-	24:514$630	103:493$280	128:007$910
Desde o 1.º de outubro de 1863 até 30 de setembro de 1864	170:379$080	-$-	-$-	51:134$360	119:244$720	170:379$080
Desde o 1.º de outubro de 1864 até 30 de setembro de 1865	286:456$380	-$-	-$-	99:011$580	187:444$800	286:456$380
Desde o 1.º de outubro de 1865 até 30 de setembro de 1866	226:859$540	-$-	-$-	80:749$940	146:109$600	226:859$540
Desde o 1.º de outubro de 1866 até 30 de setembro de 1867	181:670$420	-$-	-$-	72:638$180	109:032$240	181:670$420
Desde o 1.º de outubro de 1867 até 30 de setembro de 1868	152:258$050	-$-	-$-	56:497$570	95:760$480	152:258$050
Desde o 1.º de outubro de 1868 até 30 de setembro de 1869	114:071$500	-$-	-$-	41:351$260	72:720$240	114:071$500
Desde o 1.º de outubro de 1869 até 30 de setembro de 1870	124:562$380	-$-	-$-	42:374$860	82:187$520	124:562$380
Desde o 1.º de outubro de 1870 até 30 de setembro de 1871	55:120$490	-$-	-$-	33:622$250	21:498$240	55:120$490
Desde o 1.º de outubro de 1871 até 30 de setembro de 1872	56:953$270	-$-	-$-	9:372$310	47:580$960	56:953$270
Desde o 1.º de outubro de 1872 até 30 de setembro de 1873	44:055$120	-$-	-$-	6:887$760	37:167$360	44:055$120
Desde o 1.º de outubro de 1873 até 30 de setembro de 1874	22:296$760	-$-	-$-	3:389$560	18:907$000	22:296$760
	2.463:357$800	4.680:486$340	136:009$170	967:698$990	6.312:154$320	7.279:853$310

Casa da moeda e papel sellado, 27 de novembro de 1875.

O chefe da contabilidade,
ANTONIO AUGUSTO PINHEIRO.

K 26.

[Inclosure 10 in No. 127.—Translation.]

Report of treasury to foreign office on gold, and silver, and mining in Portugal, January 23.

MINISTRY OF FOREIGN AFFAIRS,
DIRECTION OF CONSULATES AND COMMERCIAL AFFAIRS.

ILLUSTRIOUS AND EXCELLENT SIR: In obedience to the dispatch of your excellency, the minister of finance, of the 29th November last, which contained a request for the necessary documents in order to reply to the note which your excellency sent me on the 16th of the said month for the information relative to the precious metals and the coinage of money in order to answer to a note of the chargé d'affaires of the United States at this court, of which a copy was inclosed in said dispatch, I have the honor to forward to your excellency the following documents which I received, together with notes from the minister of public works and from the director-general of the mint, copies of which I transmit, and which contain some observations with regard to the question.

Allow me to add that an official circular having been dispatched from this ministry to all the delegates of the treasury in order to find out indirectly the production of gold and silver by the tax imposed on the produce of the respective mines, it was answered by all that such a tax had not been levied for the last thirty years, from which it is concluded that such product does not exist, or, if so, in such a small quantity that it does not deserve mention. The notice sent by the ministry of public works on gold found in the washing of sands in proximity to the capital comes to prove of how little importance is the production of precious metals in Portugal.

With regard to the trade and fluctuations in the price of the two metals in Portugal, necessary information could not be obtained.

As, however, the chamber of commerce, to whom the above mentioned diplomate also applied, has just published a pamphlet on the question in which several merchants trading in the two precious metals have furnished information and statistics of divers origin, if still incomplete, as the illustrious author of the said pamphlet states, yet can give the said diplomate sufficient information to fulfill the demands of his government.

The documents which accompany this note refer partly to the mining laws, for the reform of which preparatory studies are taking place in the ministry of public works, and partly to the monetary laws, which also require some alterations with respect to money now current in the islands, as has already been proposed to the Cortes by the present minister of finance, and the copper and bronze money which is current in the country, which appeared in the last report presented by the same ministry.

God keep your excellency.

General direction of the treasury, 23d of January, 1877. Illustrious and most excellent councillor, director general of the consulates in the ministry of foreign affairs.

JOSÉ ANTONIO GOMES LAGES.

Approved: Direction of consulates and commercial affairs, February 7, 1877.

The subdirector.

E. M. BARREIROS.

K 28.

[Inclosure 12 in No. 127.—Translation.]

Report from the department of mines on the product of gold and silver in Portugal.

PUBLIC WORKS DEPARTMENT—OFFICE OF GENERAL DIRECTION AND OF MINES—SECOND SECTION OF MINING DEPARTMENT.

Remarks on the product of gold and silver in Portugal, to which the order of the day has reference.

Notwithstanding the assertions of ancient writers and traditions concerning the wealth of the gold and silver deposits of Portugal, while their existence is proved both in veins and in alluvial deposits, especially that of gold in the sand-banks of some of the rivers (notably the Tagus, Mondego, and Douro) and their affluents, it has not been much regarded in modern times, nor has any important layer of gold been worked; and the silver, merely accidentally found in some of the lead deposits, is attached to that metal and zinc in the galena and blende ore which are more or less silver-bearing.

Except only that in the sands of the alluvial zone are found (on the margins of the estuary of the Tagus west of Lisbon and Almada, and principally on the south shore) some deposits of gold, its extraction since the foundation of the kingdom of Portugal until now has consisted merely in searches undertaken by searchers, more or less skilled, at different points of the banks of the rivers alluded to, but in few other places. This searching (gandaiagem) of auriferous "pepita" and "palheta" has not, to our knowledge, amounted to regular workings, such as, up to a certain period, was the working of auriferous sands in the estuary of the Tagus.

These sands naturally are found concentrated in a layer of varying yield, to be seen at various points of the shore-line between the Tagus and Sado, from Trafaria to the neighborhood of Cezimbra. This layer is lying on another of consistent clay, and is generally covered with beach-sand having less gold in it. On the north beach, near Fort St. Julian, it seems that similar layers are to be found. According to a statement of José Bonifacio d'Aubrade, written in 1815, the yield of the layer of gold near the barrier at Ponta do Matto varied from 0.^{m}22 to 1.^{m}1, each cubic meter giving 9.^{gr}38 of gold; and the auriferous layer of "cascalho" near Azoia, with a yield of 0.^{m}22 to 0.^{m}66, gave about 3^{gr} of gold per cubic meter, the process used being imperfect.

The work of washing and exposing gold in the alluvial zone alluded to is done principally by the ocean, which, during southwesterly gales, washes and wears away the barrier or medão sand-bank upon the heaped-up beach, collecting the auriferous particles in the layer of furrowed sand lying upon the clay-bed. This layer, worked in former times, was known by the name of Malhada.

It was at Adiça, a place on the coast supposed to correspond with that now known as Mina de Ouro, that the washing of auriferous sands seems to have had continuous activity for about four centuries, from the capture of Lisbon and Almada from the Moors in 1147, until the middle or end of the reign of D. John III. It is probable that the Portuguese continued the working of the auriferous sands, first undertaken by the Moors, near Almada, which in Arabic signifies a mine, a working easy in itself and compatible with the interruptions which, in early times, the incursions of the Moors into the lands taken from them produced. The first kings endowed the celebrated military order of Santiago with

the tithes of Adiça and of the vats and gold of Cezimbra. D. Diniz organized a service of "adiceiros" or gold-diggers of Adiça, a place of no great profit from the gains of gold-washing in his times. It seems that D. Duarte re-organized this service. Various kings, from D. Diniz to D. Manoel, granted or confirmed privileges to the miners of Adiça in favor of certain individuals. There were usually twenty-four adiceiros of malhada, of whom one was the notary and twenty-three were adiceiros de medão, (the sand-bank.) The former paid annually a tax of two coroãs, the latter one; half the gold found in the malhada belonging to the King, all that found in the medão belonging to the adiceiros. The gold, when refined, was sold to the King at a regulated price below that of the coined gold.

In the want of statistical information by which to estimate the yield of gold at Adiça during the long period in which the auriferous sands of that locality were worked, it can be accepted that the mean annual products was 7^{ks} of pure gold, being 5.5^{k} of malhada and 1.5^{k} of medão,* quantities which ought to correspond with the work of the miners, the difference of the substance of malhada and medão being considered, and regarding labor as in similar conditions to what it was from 1814 to 1826. These bases being accepted, the total yield of gold during the period in question can be estimated at 2,800 kilograms. The sum total may perhaps be beyond the mark, but it must be borne in mind that in that long period the sands perhaps were richer and the working more systematic than during the twelve years from 1814 to 1826. The gold-washing of Adica began to fall off and to come to its close when the gold of Costa da Mina and Arzuim, as well as other wealth from Africa, Asia, and America, began to flow into the kingdom.

The supervision of the mines and metals of the kingdom being established in 1801, the superintendent-general, José Bonifacio d'Andrade, began again, at the expense of the state, the gold-washing on the coast, which continued until 1833 with some interruptions owing to the political disturbances of that period. The work was chiefly carried on near Ponta do Matto, the sands near the tower of St. Julian being washed in 1827 with poor results. Subjoined are the principal data of the yield of gold during the period specified, the period of each superintendent's time of office being indicated. Period No. 3 includes the yield from St. Julian at the bar.

Periods of the operations of the superintendence of mines.	Product of gold since its establishment.		Equivalent amount of pure gold.	Number of daily laborers, reckoning the year at 260 working-days.	Pure gold, per man, each day.	Expenses, in reis.	Value, in reis, of the gold produced.
	Product.	Quality.					
	Kilos.	*Carats.*	*Kilos.*		*Grains.*		
1, 7°, 1814 a 31, 8°, 1819.....	46. 5631	22.301 or 0.9292	43. 27570	27	1. 145	18:009. 790	21. 069. 482
1, 9°, 1819 a 31, 7°, 1824.....	35. 5692	22.3152 or 0.9298	33. 07374	24 to 25	1. 066	12:622. 377	18. 066. 121
1, 8°, 1824 a 30, 6°, 1826.....	3. 5825	22.754 or 0.9480	3. 39620	12 to 13	0. 538	3:591. 960	1. 937. 464
18, 5, 1829 a 14, 3, 1833.....	9. 7191	22.5 or 0.9375	9. 11160	20	0. 456 3	8:878. 630	5. 197. 776
Total, 15. 908 years....	95. 4539	.....	88. 85724	.....	. 934, average	43:142. 757	46: 270. 843

* $20^{men} \times 260^{days} \times 1.06^{gr} = 5.512^{k}$ yield of the malhada, $22^{men} \times 260^{days} \times 0.3^{gr} = 1.616^{k}$ yield of the medão., *i. e.* supposing the daily yield of medão to be 0.3^{gr} of pure gold, the minimum quantity necessary to give any profit to the adiceiros, (miners.)

It will appear from the above tables that the working at first gave a profit; latterly there was a loss. In 1833 the working at Adiça stopped. The means used in washing the sands at Adiça were very simple. From 1814 to 1833 the washing was done in wooden boxes, called "bolinetes," $2^m.22$ in length × $0^m.66$ or $0^m.77$ in width, and $0^m.22$ in depth, worked by two men. The transport of the sand to the boxes was in small cases, carried by men. The washing was finished in wooden cubes, called "baleas," into which mercury was thrown in the proportion of 1.5 to 1.0 of gold, the mixture being stirred with an iron for 1.5 to 2 hours. The amalgam separated was pressed against a reindeer-skin and then calcined. This process was similar in its particulars to that still employed by the Portuguese in Brazil. There is little information as to the process followed in Adiça at an early period. The wooden cubes (baleas) were used, of varying dimensions, and, according to a document of the time of D. Diniz, it seems that mercury was used to detach the gold.

Although the galena and zinc ores of Portugal are more or less silver-bearing, the yield of this metal is very limited; for it is only attempted in part by some miners of the mines at Braçal and Malhada, near the town of Aveiro. Generally the lead and zinc mineral is transported to England, France, and Germany, and there the metallurgic processes of these minerals are carried out and the silver contained is extracted. Only a rough estimate can be made of the quantity of silver extracted from the various lead-mines, supposing that the average amount of silver is known, which cannot be accurately verified. The copper metal of some of the mines, notably those of Palha, have also an appreciable percentage of silver.

In the following table is calculated the quantity of silver contained in some of the metal of the principal lead-mines of the country:

Mines.	Years in work.	Known yield, in metrical tons.	Approximate contents of silver.			Probable quantity of silver, in kilograms.
			Galena.	Blende.	Copper.	
Bracal and Malhada	1837 to 1875	25, 726, 599	$\frac{0.25}{1000}$	.....	.....	6, 431, 650
Carvalhal	1856 to 1875	1, 781, 814	$\frac{45}{1000}$	$\frac{2.1}{1000}$	.....	2, 708, 721
Coval da Mó	1860 to 1875	2, 589, 085	$\frac{0.25}{1000}$	.....	.....	647, 271
Palhal	1850 to 1875	23, 015, 981	$\frac{4.2}{1000}$	$\frac{1.8}{1000}$	$\frac{0.8}{1000}$	18, 552, 093
Trevoes	1863 to 1869	139, 195	$\frac{0.66}{1000}$	.....	.....	91, 869
San Miguel d'Ache	1859	7, 500	$\frac{0.5}{1000}$	(?) $\frac{1}{1000}$	.....	6, 250
Total	.....	.....	.....	.....	.....	28, 337, 854

The whole quantity of silver contained in the metal extracted during the period from 1837 to 1875 will not be far off from that indicated, because, although the silver contained in the galenas, blendas, and copper ore cannot be taken as giving the mean value exactly, we omit the yield from the lead and zinc mine of Moinho da Pena; from the copper, zinc, and lead mine of Telhadella, and that of other mines whose metal is more or less impregnated with silver.

The pyrites of Spain and Portugal contains a small quantity of gold and silver, of which the mean amount varies from 0.0020 to 0.0028 per cent. The total yield of pyrites at S. Domingos from 1859 to 1875 reaches 2,060,950,709 tons, and that of the mines of Aljustrel from 1868

to 1875 reaches 9,138,733. The quantity of gold and silver contained in this pyrites, taking the percentage to be 0.0025, would be 51,752,223 kilogrammes. However, the precious metals at S. Domingos have only been raised in very small quantities by the Claudet-Philippe process.

Department of Mines, December 29, 1876.

JOÃO BAPTISTA SCHIAPPA D'AZEVEDO.

Approved: First section of general direction of the treasury, January 23, 1877.

JOÃO FELIZ ALZ DE MINHAVA.

K 30.

[Inclosure 14 in No. 127.—Translation.]

Minister of public works to minister of finances on mining laws.—December 29, 1876.

MINISTRY OF PUBLIC WORKS—GENERAL DIRECTION OF PUBLIC WORKS AND MINES—MINING DEPARTMENT—SECOND SECTION.

ILLUSTRIOUS AND MOST EXCELLENT SIR: In answer to the note of your excellency, desiring divers information regarding mining laws and the production of precious metals in Portugal, I have the honor to forward to your excellency a copy of the laws in force for mines and a notice on the production of gold and silver. With regard to more detailed information desired by your excellency, it is at present impossible to give precise facts, and only inform your excellency that preparatory studies are going on in order to proceed at the proper time with the reform of the mining laws.

God keep your excellency.

Ministry of public works, commerce, and industry.

December 29, 1876.

To the illustrious and most excellent minister and secretary of state for finances.

LOURENÇO ANTONIO DE CARVALHO.

Approved: First section of the general direction of the treasury.

JOÃO FELIZ ALZ DE MINHAVA.

K 32.

[Inclosure 16 in No. 127—Translation.]

MINING LAWS OF PORTUGAL.

Summary of Portuguese legislation on the finding and working of mines.

No. 1.—Earliest legislation, viz: Decree of December 22, 1852, and index.

No. 2.—Latest legislation, December 4, 1869, with index.

No. 3.—Registration of mines, 1868, with order in council, April 23, 1872, explanatory of the same.

Summary of Portuguese legislation concerning the finding and working of mines.

No. 1.—EARLIEST LEGISLATION.

(From December 22, 1852, to April 23, 1872.)

Date of decree.	Subject.	Terms of decree.
	Discovery of mines.	
1852. Dec. 22	Article 1, § 1. In Portugal.....	Every Portuguese person or company allowed to work their own mines; or, with previous consent, those of another person, employing either Portuguese or foreign labor.
	§ 2. In the colonies of Portugal...	In the colonies the government can permit such working on waste lands or government lands, and even on private property, without the owner's consent, provided that the finder gives security to indemnify for all damage done by his researches.
	Art. 2, § 1. Permission given to foreigners, on what terms.	Foreigners, before being accepted as concessionaires, must renounce all privilege as foreigners.
	§ 2. Power of local governors to grant concessions.	Local governors can only grant concessions to Portuguese persons and companies.
	Art. 3. Preliminaries before leave can be given to make researches.	A declaration must be given stating exactly the place to be searched and the name and qualifications of the applicant.
	Art. 4. Rights secured to the finder of a mine.	The future concession is guaranteed to the finder provided that he qualifies according to the law of July 25, 1850.
	§ 1. The finder's obligations to government.	The finder must make known to government the discovery of ore, the nature of the ore, the distance of the locality from certain defined spots, and must send in samples.
	Art. 4, § 2. Form of receipt given by government to finder.	This receipt will state the day and hour of registration, and whether or not any other registration of the same mine exists.
	Art. 5. Further rights guaranteed to the finder on proof that he is the first discoverer.	The government must secure working powers to whomsoever proves priority of discovery.
	§ 1. If the discoverer cannot thus qualify, how he is to be compensated.	In the case of government lands, by a grant of 360 square yards of land, selected by him. If the discovery be on private lands, he is to be compensated by a premium proportionate to the value of his discovery by the concessionaire, after an arbitration; this award to be entered as a condition in the act of concession.
	§ 2. What disqualifies a finder from claiming a concession.	His failing to fulfill *every one* of the conditions above stated.
	§ 3. Limit of the powers of government thus to grant concessions.	In the case of a discoverer declining to accept the terms of a concession it cannot be given to another applicant on easier terms unless these easier terms have been previously offered to the discoverer.
	Art. 6. Powers of search can be renewed.	Such powers can be renewed at the end of the year, provided that the works of search have been continuously carried on for three months in that year.
	§ 6. Extent of such concession of searching powers limited.	The search must not extend beyond nine* square leagues, but fresh powers over other ground can be given on the expiry of the first permission and on the right to the first being renounced.
	Art. 7. Powers of concessionaire: (*a*) Their limits. (*b*) Their extent.	His powers are limited by the limits of the land conceded to his search. They extend to the ability to exclude all trespassers on his right of search.
	§ 6. A special exception.....	The license of the home government given to another applicant will override one given by the local government; in which case the local government must make other provision for their own concessionaire, unless the two parties can agree to work, together or otherwise, on the same lands.
	Art. 8. As to arbitration of disputed discoveries.	The date on which participation of a discovery is made to government establishes the question of priority of discovery; all cases of dispute to be settled in the ordinary tribunals.
	Art. 9. On the site of established mines in the ultramarine provinces.	These mines are government property, to be worked by tender to the best advantage of government.
	Art. 7, § 6. A declaration to be made by government of these sites of mines.	These shall be made as soon as possible, in order that searchers may know what grounds are still open to fresh discoveries.
	Art. 10. Limits of the right of searching.	The right of search is limited to the inspection of the surface, to open excavations, and boring.
	§ 6.....	License to be obtained from the governor of the province before opening shafts or levels. Ore thus raised cannot be claimed by the finder before a final concession has been granted to him.

*Reduced to five square leagues on December 31, 1852.

Summary of Portuguese legislation, &c.—Continued.

Date of decree.	Subject.	Terms of decree.
	Discovery of mines—Continued.	
1872. Dec. 22	Art. 12. How the law of July, 1850, can be adapted to the circumstances of each province.	By modifications made by the King in council.
	Art. 13. Special matters required to be stated in the act of concession of colonial mines.	The concessionaire is to transport to Africa, as colonists, a number of white persons proportionate to the number engaged on the mines, but who will not be liable to labor on the mines. Concessionaires must pay in provincial current coin for labor done. Payment in goods prohibited if either agents or laborers object. The concessionaire has no exclusive right to keep a store or shop.
	Art. 14. On auriferous sands and fluvial deposits.	These may be appropriated without license, formality, or tax by any person; provided that no fixed buildings for the works be erected. When there is any fixed establishment a tax will be levied of 5 per cent. on the liquid produce of mineral raised, whether transported or raised after manipulation.
	Art. 15. Tools or machinery, § o ...	Tools, &c., for mining purposes enter the country free of duty. But for how long a time and at what custom-houses such exemption is to last will be declared in a government decree.
	Art. 16. The proclamation of concessions.	Such proclamations will be made in the journals of the province, and in the Diario do Governo of Lisbon.
	Art. 17. Concessionaires who fail to satisfy government requirements.	These, *ipso facto*, forfeit their rights.....

THE QUEEN.
DUKE OF SALDANHA.
RODRIGO DA FONSECA MAGALHÃES.
ANTONIO MARIA DE FONTES PEREIRA DE MELLO.
ANTONIO ALUIZIO JERVIS DE ATHOGUIA.

Contents of each chapter and section of the decree of December 22, 1852.

No. of article.	Subject of article.	Page of article.
1	On the discovery of mines. § 1. In Portugal. § 2. In the colonies.....	1
2	§ 1. Permission given to foreigners to become concessionaires, on what terms. § 2. Power of local government to grant concessions.	1
3	Preliminaries before leave can be given to make researches.....	1
4	Rights secured to the finder. § 1. His obligations to government.....	1
	§ 2. Form of receipt given to him by government.....	2
5	Further rights given to finder, on proof that he is first discoverer. § 1. If he cannot thus qualify, how he is to be compensated. § 2. What disqualifies a finder from claiming a concession. § 3. Limit of the power of government thus to grant concessions.	2
6	Powers of search can be renewed, under what contingencies.....	3
7	Powers of a concessionaire. (*a.*) Their limit. (*b.*) Their extent. §. One exception.	3
8	As to arbitration in cases of disputed discoveries.....	3
9	On the sites of established mines in the ultramarine provinces.....	3
	§ o. A declaration to be made by the government of the site of these mines.....	4
10	Limits to the right of searching for ore.....	4
12	How the law of July, 1850, can be adapted to the circumstances of each province ..	4
13	Special matters required to be stated in the act of concession of colonial mines	4
14	On auriferous sands and fluvial deposits.....	5
15	Tools and machinery for mines.....	5
16	The proclamation of the concession of a mine.....	5
17	Concessionaires who fail to satisfy government requirements.....	5

Summary of Portuguese legislation concerning the finding and working of mines.

No. 2.—LATEST LEGISLATION THEREON.

(Dates: Decree of December 4, 1869, and order of council of April 23, 1872.)

Number.	Subject.	Terms of each article.
Chapter I.....	*General regulations.*	
	Art. 2. Absolute need of a concession from government.	That no mine whatever can be worked without such concession, even by the lord of the soil.
	§ o. Exception.....	That peat, salt, and sulphur are not included under this decree.
	Art. 3. On alluvial and fluvial deposits.	These can be turned to account without a concession, provided that there are only temporary constructions. When the work warrants fixed buildings a concession will be required.
	Art. 4. Stone-quarries, peat deposits, ferruginous deposits, alluvial or marshy deposits, mineral and saline waters, saline efflorescences.	These can be worked by the proprietor, or by another with consent of the proprietor, without government authorization.
	§ o. Cases of public necessity.....	In cases of public necessity, government can work deposits, even against the will of the owner.
Chapter II.....	*On finding and working mines.*	
	Art. 5. What are works of search?	(*a*) Shafts of the depth of 15 meters; (*b*) levels to the length of 25 meters; (*c*) pits to the depth of 2 meters; (*d*) borings for soundings, would be regarded not as preliminary works of research, but actual mining operations.
	§ 1. Whatever works are excessive of the terms of this article.	
	Art. 6. Who is entitled to search for ore.	Any Portuguese or foreigner on his own land, or on another's land, with his written consent.
	Art. 7. Requirements in case the land be (*a*) municipal or (*b*) government property.	In the case of (*a*) municipal land, license from municipal authorities is enough. (*b*) In case of government property or land under government sovereignty, the license of the governor of the province is requisite, for which the latter must apply to the home government.
	§. Proviso	In the application the site must be accurately defined.
	Art. 8. The case of a proprietor refusing to grant permission to search for ore.	In such a case the government can grant permission on the following terms: (*a*) The administrative authority will assure itself that the search is desirable; will estimate the probable damage to the estate, and the rent to be paid for the land affected by the works of investigation. (*b*) The petitioner must provide suitable deposit or caution money for both damage and rent, to the owner's satisfaction.
	§. Appeal.....	Appeal lies to the governor of the province, with a government engineer as assessor.
	Art. 9. Length of time allowed for making search for ore.	Two years only, renewable at the discretion of the governor of the province.
	Art. 10. Works done by the owner himself.	Even for these the owner requires the license of the governor of the province, who will act with an engineer as assessor.
	§ 1. Plans required	He must furnish a topographical plan, in duplicate, at the scale of 1-10,000 at least.
	§ 2. Works done without consent of owner.	The same conditions in such works as in preliminary search without consent, (Art. 8.)
	Art. 11. Extent of ground for which working powers can be granted.	The limit is 25 square kilometers; but new permissions can be granted for other "sets."
	Art. 12. Permission granted to foreigners on what terms?	* Foreigners, before being accepted as concessionaires, must renounce all privilege *ad hoc* as foreigners.
	§. Act of renunciation of privilege required of foreigners.	They must make such renunciation, (in duplicate,) before a judge in ordinary of the kingdom or colony, who shall give his decision; a certificate thereof in duplicate to be sent to the governor of the province, who will send one copy to the government.
	Art. 13. Search for ore prohibited in certain places.	Viz: (*a*) On highways; (*b*) within fortified cities or fortifications; (*c*) in non-rural populations; (*d*) within 40 meters of any edifice, bridge, canal, or road, or other public right of way.
	Art. 14. Also prohibited	Within 1,400 meters of esplanades, fortified posts, and towns; unless there be first granted a special license of the governor of the province on the affirmative vote of the council of government.
	§ o. Those who contravene either of these two articles, Nos. 13 or 14.	These will pay an indemnification of twice the amount of the damage done; also a penalty of 20,000 reis, and, for a second offense, imprisonment of not more than one month will be incurred.

* See decree of December 22, 1852, ii, § 1.

Summary of Portuguese legislation, &c.—Continued.

Number.	Subject.	Terms of each article.
Chapter III....	*Declarations of discovery; rights of discoverer.*	
	Art. 15. How a discoverer can secure his rights.	He must declare his discovery, and send in his petition to register it.
	§ a. Particulars to be stated in his petition to register.	His name, civil state, residence, and profession. Also, (*a*) a declaration of the kind of mineral discovered; (*b*) the locality, as exactly as possible; (*c*) the name of surrounding mines, if any; (*d*) the name of the proprietor of the soil, if belonging to a private person.
	Art. 16. How and where this petition is to be deposited.	In a special book, "rubricated" by the governor of the province, stating the day and hour of presentation. A certificate of this is to be given to the presenter. He can also require a receipt of his note of declaration at the time of presenting his petition, stating the day and hour of its delivery.
	§ o. For how long valid	The value of the petition expires at the end of two years, unless the final concession has been obtained, or time has been renewed.
	Art. 17. Powers attaching to said certificate.	He thus can claim of the governor of the province the recognition of his rights of discovery.
	§ 1. Governor's action thereon....	The governor will immediately order a bulletin to be published, and affixed in the capital of the province and principal places of the district in question bills offering an opportunity of opposing the petition within six months of this publication of bulletin.
	§ 2. In case of opposition to the claim of discovery.	The question of dispute is to be decided by the governor in council.
	Art. 18. Unopposed claims.....	The governor, advised by his council, and having full information, will order the delivery to petitioner of rights of discovery, fully describing the site, &c.
	§. Extent of ground granted	Ground thus allotted for mining must be conterminable with that which had been allowed for the search.
	Art. 19. Time allowed before active operations.	Must not exceed one year; after which, if not availed of, the claimant will have no prior claims in competition for working-license—only to his dues as discoverer.
	§. Royalty, amount of.....	The concessionaire is liable to pay a royalty of 2 per cent. on the net profits. A title to the premium will be granted by the governor of the province, and will be transferable by mere indorsement.
Chapter IV....	*On concession of mines.*	
	Sec. I.—Form of concession.	
	Art. 20. How a person, society, or company must act to obtain a concession.	He or they must petition the governor of the province, stating (*a*) title to discovery; also sending (*b*) duplicate ground-plans on a minimum scale of 1-10,000, and (*c*) documents proving the qualifications of the chosen director of the works: *i. e.*, a certificate of his attendance at a course on mining, (either national or foreign,) and also a certificate of his personal experience in mines.
	Art. 21. Nature of the document granting title to the concessionaire.	This must define the site, exactly; must secure the rights of the owner of the soil, and the general obligations of the concessionaire must be set forth, as well as his particular ones in this case.
	§ o. Limits of concession	A duplicate of this document must be given to the concessionaire. The land thus defined not to exceed 2,500 hectares.
	Sec. II.—Validity of concession.	
	Art. 22. Terms on which a concession confers property in a mine.	1. That in the case of farm-lands under cultivation, a special concession has further to be obtained before a miner can disturb them. 2. That property in a mine be transferable with the sanction of government, or of the governor of the province.
	Art. 23. Limit of concession as to what ore may be extracted.	The concession refers only to the ore specified in the petition, and that which is conglomerate with it.
	§ o. How there may be two concessions to one mine.	The working of a different ore to that specified can be granted to a separate concessionaire, provided that the lode is in a separate part of the mine.

Summary of Portuguese legislation, &c.—Continued.

Number.	Subject.	Terms of each article.
Chapter IV	*On concession of mines*—Continued.	
	Art. 24. A concession cannot be divisible and is inalienable.	It is indivisible even if it comprehends more than one parcel of land, until it has been divided into two or more distinct concessions.
	§ o. How this can be altered.....	This partition into several concessions can only be effected by the governor in council, acting on the advice of the government engineer of mines.
	Sec. III. Demarkation and taking possession of the mine.	
	Art. 25. How an act of demarkation and taking possession can be effected.	(*a*) The administrador of the district in question will intimate to the neighboring mine-holders (if any) to be present at the act of demarkation and taking possession, giving eight days' notice of day and hour. (*b*) The demarkation to be done by the engineer of the province; and boundary stones to be placed in places indicated in plan and title of concession. (*c*) Possession will next be given with the usual formalities by the administrador of the district or his deputy. (*d*) The document is to be signed by the interested parties with two witnesses.
	§ o. How paid for	All the expenses of this official act to the time of his taking possession will be borne by the interested party.
	Art. 26. Boundary stones	Boundary stones can never be moved without the authority of the governor. The concessionaire is bound to maintain them erect and visible, under pain of incurring the penalty set forth in articles 445 and 446 of the penal code.
	Sec. IV. Obligations of the concessionaire.	
	Art. 27. The nature of his obligations threefold.	(*a*) General. (*b*) Special. (*c*) Accidental.
	Art. 28. His "general" obligations.	(1) To satisfy the proprietor of the soil. (2) To execute mining works according to rules of art, the workers and laborers accommodating themselves to such rules. (3) To consider himself liable for damage accruing to another man. (4) At the end of the year after obtaining his title to present a plan, in duplicate, on the scale of 1-1000, tracing his intended operations. (5) To begin his works in six months from the date of his title of concession—unless there be some special hinderance—under penalty of forfeiting his concession. (6) To keep the mine in continuous working. (7) To take necessary precautions when any bad working causes risk of ruin to the mine. (8) Not to hinder by avaricious working the ulterior profit of the ore. (9) Not to suspend work without due notice given to the local authority; to leave the supports in good condition when the work is suspended. (10) To satisfy such charges as the law does or shall establish. (11) To send a report up to January 31, of each year, of the works previous to that date, to the governor of the province. (12) Not to accept a new engineer to direct the labor without the governor's license. (13) To establish buildings requisite to secure the health of the inhabitants and of his laborers, and to avoid the running away of water used in the washing of ore; these works the governor will order, with the advice of the engineer in question and the council of the government. (14) Not to pay the workmen in goods against their express desire. (15) Not to make use of any other substances than those indicated in the title of concession and such as happen to be agglomerated in the same deposit with them. (16) To allow search for other useful substances on the site of his concession when the governor of the province considers it suitable to permit it.

Summary of Portuguese legislation, &c.—Continued.

Number.	Subject.	Terms of each article.
Chapter IV	*On concession of mines*—Continued.	
	Art. 29. Some obligations may attach to the concessionaire which are *special* or accidental.	Such as: (1) To consent to the intervention of military authority in mines within 1,400 meters' distance of a camp and fortified places, and in works of investigation which must be made by wells and galleries. (2) To observe such precautions as the governor orders, on the advice of the engineer of mines, should the works of the mine be within 40 meters' distance as to the sides of highways, roads and drainage works.
	Sec. V.—The duration of a concession.	
	Art. 30. The extent of a concession.	All concessions are for an unlimited time, so long as the concessionaire fulfills the conditions which the law and his title impose, and he can dispose of the products of his mine and enjoy all rights recognized by this decree.
	Sec. VI.—On concessions by legal tender.	
	Art. 31. Cases in which tenders will be accepted.	1. When the discoverer shall not qualify in due time, in accordance with article 19. 2. When the concession shall be pronounced "abandoned."
	Art. 32. How shall tenders be invited?	Governor of province shall publish notice in his gazette, (boletine,) and in the Diario de Governo; the competition to remain open for one year from the date of such notice.
	§ o. Proviso.....	The governor, under advice of the council on mines, shall fix the exact terms of competition; and in the event of the case alluded to in art. 31, § 1, it is essential that the bidder make good the claims of the discoverer.
	Art. 33. Regulations for conducting the competition.	Bidders to give in their tenders in sealed letters, within the time and on the terms stated in the invitation for tenders. These shall be opened on a day to be appointed by the governor, and announced in the gazette of the province with due notice. Under advice of his council, the governor will grant the concession to the party offering best terms and securities. Appeal from his decision lies to the government who will decide, with the advice of the junta concultion of the colonies, (ultramar.)
Chapter V	*On the abandonment of mines.*	
	Art. 34. Circumstances by which a concession is forfeited.	By failing to fulfill the terms on which it was granted, *especially*, (1) Not commencing within six months nor working continuously, saving in cases where special excuse can be shown. (2) Not taking due precautions, in accordance with rules duly defined, when danger arises from faulty working. (3) For rendering it difficult or impossible to turn the mineral to account in the future, owing to bad workmanship. (4) Failing to pay imposts as by this decree established. (5) Failing in the conditions as stated in Art. 28, 4.
	Art. 35. How the fact of forfeiture will be adjudicated.	By the governor in council, after hearing the concessionaire. The latter can appeal to the council of state.
	§. Proviso	The declaration of such forfeiture shall at once be published in the gazette of the province and reported to the government.
	Art. 36. As regards mines abandoned previously to this decree.	These are not liable to the regulations of this decree, as to being put up for tender; the sites are hereby declared capable of being surrendered on the ordinary terms.
Chapter VI....	*On the taxation of mining operations.*	
	Art. 37. Payments to the state by the concessionaire. 1. Fixed. 2. Proportionate to profits.	1. A *fixed* annual charge proportionate to the superficial area of the site. 2. A charge *proportionate* to the estimated gross value of available mineral, determined by agreement between the concessionaire and the governor in council.

Summary of Portuguese legislation, &c.—Continued.

Number.	Subject.	Terms of each article.
Chapter VI	*On the taxation of mining operations*—Continued.	
	§. Mines conceded prior to this decree.	These, also, are subject to this payment.
	Art. 38. Amount of such payments.	1. The *fixed* impost shall be 100 reis per hectare. 2. The *proportionate* tax shall not exceed 1½ per cent.
	Art. 39. Exemptions from such taxation.	Iron-mines and coal-mines are exempt.
	Art. 40. Also.....	All produce of mines exported from the ultramarine provinces are exempt from dues and charges on export, of whatever sort, form, or pretext.
Chapter VII ...	*Advantages granted to mining enterprise.*	
	Art. 41. Summary of privileges conceded to mining enterprise.	1. Concessionaires may make use, in accordance with law and regulations, of the water of rivers, streams, and springs; such as are not employed and owned on a legal title. 2. They can provide themselves with firewood, coal, and brushwood, and use fodder for cattle on state lands or communal lands, with due obedience to law and regulations. 3. They are exempt from import duties on such tools, machinery, and models as they send for, either from abroad or from places within the kingdom, to be used on their works, as well as duties on coal for consumption thereon, except that it is liable to *octroi* levied by the governor of the province. 4. Only in cases of bankruptcy can any tribunal stop the works, either in the mine or workshops. 5. Nor can an embargo be placed on tools, machinery, or models, nor can they be taken in execution, so long as the mining continues and the workshops are in operation.
Chapter VIII..	*The rights of the owners of the soil and their obligations.*	
	Art. 42. To what they must consent.	They must allow such expropriations of a field as are necessary for opening wells and galleries, for the establishment of shops, stores, and sheds for tanks and water-piping, and for other works of recognized public utility. 2. They must consent to the occupation of all or a part of their land for a limited time.
	Art. 43. What are the rights of the owners of the soil?	1. To the previous payment of the value of the land to be expropriated. 2. To a rent as indemnity for the temporary possession of their land. 3. To be re-imbursed for all damage done in the search for ore, exploring works, and labor. 4. To oblige the concessionaire to pay the value of the site should his occupation exceed three years.
	§. Steps to be taken in the event of disagreement between the owner and the concessionaire as to rent, &c.	§. Such disputes must be decided in conformity with "Laws on expropriation of lands for works of public utility;" either as to rent, damages, or value of site, by the judicial decision of experts; the assessment, the judgment, and the manner of appeal to be in accordance with existing legislation on this subject.
	Art. 44. The case of land which had been sold for a mine afterward abandoned, and of the buildings thereon.	When the mine has been abandoned for more than ten years, the ownership of both lands and buildings reverts to the owner of the soil.
Chapter IX....	*On mines belonging to the state.*	
	Art. 45. What mines belong to the state?	1. Abandoned mines. 2. Mines recognized as such, but not yet worked, situated on state property or land subject to Portuguese sovereignty.
	§ 1. Memorandum	§ 1. The government shall publish, as soon as possible, in the Diario do Governo, a report of the mines here alluded to.
	§ 2. Memorandum	§ 2. The right is reserved to government to make over these mines to societies or companies for thorough working within a defined zone under ground.

Summary of Portuguese legislation, &c.—Continued.

Number.	Subject.	Terms of each article.
Chapter X....	*On the inspection of mines.*	
	Art. 46. To whom the *supreme* oversight belongs.	The supreme inspection in the ultramarine provinces belongs to government, in the department of the minister of marine and the colonies.
	Art. 47. To whom *local* inspection in the ultramarine provinces belongs.	It belongs to the governor-general of the province, who can, to this end, order scientific examinations, visits, and inspections of mining establishments by competent persons.
Chapter XI....	*Final regulations.*	
	Art. 48. The engineer of mines and his deputies.	In the absence of the engineer of mines, the functions incumbent on him can be fulfilled by an engineer of the province, and in his absence by an engineer selected by the governor.
	Art. 49. In default of engineers of mines in a colony.	Their place may be supplied by local engineers, provided that the public service does not suffer.
	Art. 50. Who is the authority who can override the owner's rights of property, make a manifest of discovery, and preside over the demarkation of boundaries?	These duties attach to the administrador of the district, (conselho.)
	Art. 51. Revokes all previous legislation contrary to this decree.	

(Signed) THE KING,
LUIZ AUGUSTO REBELLO DA SILVA.

Contents of each chapter and section of the decree of December 4, 1869.

Number.	Subject.	Number of articles.	Page.
Chapter I.....	General regulations	Art. 1- 4	1
Chapter II.....	On the discovery and working of mines	Art. 5-14	1
Chapter III....	Declarations of discovery and rights of discoverer	Art. 15-19	4
Chapter IV....	Concessions of mines:		
	Sec. I.—Form of concession	Art. 20-33	6
	Sec. II.—Validity of concession		6
	Sec. III.—Demarkation and taking possession of mine		7
	Sec. IV.—Obligations of the concessionaire		8
	Sec. V.—Duration of a concession		9
	Sec. VI.—Concessions made by legal-tender		10
Chapter V....	On the abandonment of mines	Art. 34-36	10
Chapter VI....	On the taxation of mining operations	Art. 37-40	11
Chapter VII...	Privileges granted to mining enterprise	Art. 41....	12
Chapter VIII..	The owners of the soil; their rights and obligations	Art. 42-44	12
Chapter IX....	On mines belonging to the state	Art. 45....	13
Chapter X.....	Inspection of mines	Art. 46, 47	14
Chapter XI....	Final regulations	Art. 48-51	14

No. III.

1. *Royal order of April* 2, 1863, *on registration of mines; and*
2. *Royal order explanatory of the same, April* 23, 1872.

REGISTRATION OF MINES.—"Having (by order of July 25, 1863) commanded the civil governors on the continent of the kingdom to require the corporations in their districts not to accept the register of any mine now registered, before the termination of the space of eight months, dating from the first registration; and having laid on the corporations the obligation to decide—at the time of the presentation to them of any declaration of discovery—the question of the coincidence of two entries; a question which can often be decided with certainty on the spot, in the presence of the parties interested, and in view of the statements in the register:

"His Majesty now annuls that order, and commands the civil governors of the continent of the kingdom to require all the corporations in their several districts—

"1. To have a book specially set apart for the registration of mines, numbered and "rubricated' by the president of the chamber.

"2. That at the time of any declaration of a discovery being presented for registration the notary of the chamber or his deputy shall (independently of the document of the president of the chamber) register it in the proper book, in such a manner that no blank space be left between two registers, declaring the day and hour on which the entry was made, signed by the notary and the party registering.

"3. That in the declaration of discovery which shall be delivered to the party registering, the notary mention the page of the register, with the day and hour of the entry, declaring that from that date commences the fixed space of eight months in which the claim must be made to rights of discovery in the office of the minister of public works, commerce, and industry, and the certificate (in full) of registration be presented there, with a document respecting the deposit* alluded to in decree of August 13, 1862, article 3. The deed of discovery, with the above-named declaration, will fully satisfy and have the effect of a certificate of registration.

"4. That the party registering must have the power of examining the register-book in the notary's presence.

"5. That the report on the registration of mines made in the several chambers, to which the said order of July 25, 1863, alludes, be sent monthly, in tabular form, stating the name of party registering, date of register, situation of mine, and nature of ore.

"To be communicated by the minister of public works, commerce, and industry, to all the civil governors of the kingdom, for their cognizance, and to be by them put into effect.

"King's Court, April 2, 1868.

"SEBASTIÃO DO CUNTO E CASTRO MASCERENHAS."

No. 2.—*Royal order explanatory of the above, April* 23, 1872.

"An incorrect construction having been frequently given to the regulations of the order of April 2, 1868, regulating the registering of mines in the municipal chambers, and in order to simplify as much as possible the procedure by which such documents become valid, in which the main purpose should be to guarantee to the parties interested the rights accruing to them owing to priority of discovery—

"His Majesty the King, in addition to the order alluded to, commands me to make known to civil governors of districts on the continent of the kingdom, in order that they may make the same clear in the corporations within their jurisdiction, that in case any person who presents a declaration of discovery of a mine shall not be the very person registering the same, but only the bearer of this document on behalf of another, the person thus presenting it will have to sign, with a distinct statement of his quality, &c., the printed register in the authorized book, without being obliged to exhibit to the notary of the municipal chamber any power of attorney, or declaration of the person or persons in whose name the register is entered.

"Also, His August Majesty orders the said magistrates, in consideration of the importance of the said registers as the basis of these concessions, strenuously to impress upon the municipal authorities the exact observance of the regulations contained in the order alluded to.

"King's Court, April 23, 1872.

"ANTONIO CARDOSO AVELINO."

K 34.

[Inclosure 18 in No. 127.—Translation.]

Answer of the Chamber of Commerce of Lisbon to the interrogatories of the commission intrusted with the study of monetary reform in the United States, and transmitted to the Chamber of Commerce by his excellency Mr. Benjamin Moran.

In a note dated the 4th of November, 1876, and addressed by his excellency Mr. Benjamin Moran, chargé d'affaires of the United States in Portugal, to one of the secretaries of the Commercial Association or Chamber of Commerce of Lisbon, certain information was solicited from that body with respect to the metallic currency and coinage in this country, and other facts, all relative to the monetary question. Inclosed in this note was a printed circular sent to the representatives of the

*130.000 reis.

United States in foreign countries, with interrogatories from the commission which at the present time is intrusted by the United States to study and prepare the basis for a reform, brought about by the suppression of paper money.

The chamber, desirous of acceding to such a flattering request, but knowing the difficulty there would be to fulfill in an exhaustive and complete manner the request made, difficulty arising from the deficiency which has been noticed among us, of the indispensable elements and facts requisite to serve as basis for investigations of this nature, as also because such studies on a proper footing require time at disposal, and other resources naturally wanting to the members who compose it; the association, we repeat, determined that they ought to limit the work about which they were about to proceed more particularly to those points of the questions which, involving matters of fact and solely referring to that country, they can with less work and more complete definiteness of aim bring within the bounds of their reply.

To the interrogatories the association answered in the following manner:

No. 1. Has any change taken place in the country to which you are accredited in the relative value of gold and silver during the past fifteen or twenty years?

No. 2. If so, what has been the nature and extent of such change?

A. Give the average annual value of pure silver in pure gold, or of pure gold in pure silver, or their equivalent in "standard" gold or silver, in such country. If no regular sales have been effected or recorded, upon which to base a precise calculation, give the relative value of pure silver and pure gold approximately.

The trade in precious metals in bars is, at the present moment, in Portugal of very small importance. The basis of the monetary system now in force being the adoption of gold as the sole standard, and the predominating money in the country being the English sovereign, with a recognized legal value of 4$500 reis, the coinage of national money is from this very fact restrained, and when necessity demands a more or less important exportation or importation of sovereigns, it is then that the only true sales of precious metals occur in Portugal. Daily transactions in gold or silver in bars not taking place on the markets of Lisbon or Porto, official quotations of the price of the two metals are completely missing.

For the manufacture of jewelry and plate, recourse is usually had to the melting of foreign silver money, old national gold, and even Amerieagles. According to reliable information given in Lisbon by a person who has traded in precious metals, the changes in the value of silver of the assay of 916⅔ per thousand of pure metal, have fluctuated in this city from 1854 to 1874 between 34 and 35 reis per gram, giving a legal value of 563.85 reis, or nearly 564 reis for a gram of coined gold of the same assay of 916⅔, a ratio of 1:16.58 to 1:16.11. In 1876, however, the value of a grame fell down to 32 reis, which represents the equivalent of 17.62. Most detailed information received from Porto through the firm of Widow, Moreira & Son, enabled the following tabular statement to be made of the changes in the relative value of the two metals in that city:

Years.	Price of the gram of silver assayed at 916⅔.	Equivalent.
	Reis.	*Reis.*
1856-1857	34	16.58
1858-1863	34.5	16.34
1864-1865	35	16.11
1866-1868	35.5	15.88
1869-1870	34.5	16.34
1870-1872	35	16.11
1873	35.5	15.88
1874	35.5	15.88
1875	35	16.11
1876	33.5	16.83

The relative value of both metals in the European markets which regulate the price of precious metals was, for the same dates, different from what we have just mentioned; whereas, according to the statements which are contained for example in the testimony of Mr. Feer Herzog before the committee of inquiry in France, statements extracted from the writings of Clement Zuglar and Svetbeer, it is shown that the changes in this respect from 1854 to 1868, in Hamburg, fluctuated in 1854 from 15.20 to 15.56 in 1868; in London, between 15.21 in 1859 and 15.60 in 1868; and finally, in Paris, between 15.32 in 1860 and 15.57 in 1868. It must be noticed, also, that beyond the smallness of the market other special causes must be existing in Portugal which explain the great depreciation of silver, and chief of them the stoppage of coining of this metal, in virtue of the monetary reform of 1854, however great had been its exportation before that date, and might have continued to increase, as the natural result of this reform.

At present, this last cause having for a long time ceased to operate, the result of the state of things abroad which regulate in mercantile matters the equipoise of value between the two metals is more pronounced, thus lowering the said equipoise by the depreciation which silver suffered, of more than 12 per cent., in Lisbon at 17.62, and in Porto at 16.83; which agrees with the relative value of 1:16.876, which was quoted in the London market on 8th January, and of 1:17.919, which was quoted on the same market the 4th March of the present year, (1876.)

B. What metal or metals constitute the standard of value in such country? In other words, in what metal, gold or silver, or both, can debts of the largest sums be legally discharged? If in both or either, state the legal relation or equivalent established between the two precious metals, and any change or changes which have been effected in such legal relation during the present century.

The monetary system now in force in Portugal is the result of the law of 29th July, 1854. By this, gold is established as the standard of value, of the assay 916⅔ per 1,000, or equaling eleven-twelfths, the gold crown-piece weighing 17.735 grams and valued at 10$000 reis.

For this money or coin and its divisions of halves, fifths, and tenths of a crown, the legal allowance has been fixed at two per 1,000 in weight and two per 1,000 in assay.

Silver money, considered subsidiary, and in reality being soft money, is coined with a metal also of the assay of 916⅔, each coin of 500 having to be of a weight of 12.5 grams.

The law ordered that within a maximum period of four months gold and silver coins, whose circulation or currency was proved legal, would lose the character of legal money, the governing powers being obliged

to exchange and accept it as payments in the public coffers during that period, and extending the term to thirty days more for the purpose of exchange only.

For different reasons the law was unable to be put in force to that effect, precautionary orders afterward promulgated having authorized the annual prolongation of these periods for the exchange and circulation of old gold and silver coins up to the 30th June of the present year, (1876,) it being certain that for a long time these coins only constituted a weak minority in the metallic currency of the country.

As before the reform of 1854, gold and silver money were the legal money of the country, it is proper here, in order to satisfactorily and in a complete manner answer the question, to examine these alterations to which the legal relative value between the two metals was subject in the first half of the century.

The law in force at the beginning of the century with respect to gold was the one proclaimed by D. Pedro II; to this sovereign is due the monetary reform, important in more than one way, and is found included in the law of the 4th of August, 1688. By this law, 96$000 reis was the price fixed to be paid in the mints of Lisbon and Oporto for a mark of gold of 22 carats, (the mark is equal to 229.5 grams and 22-carat gold is assay at 916⅔,) the same coining the value of 102$400 reis. For a mark of silver of 11 "dinheiros" the value was established at 6$000 reis, producing when reduced in coins, 6$300 reis. The legal equivalent between the two metals was, however, at that time from 1 to 16. In 1747, nevertheless, in the reign of D. Yoão V, the value of a mark of silver coined was altered to 7$500 reis, which made the relative value between gold and silver free from alloy fall to 13.5. Such was the relative value or equivalent which still existed at the beginning of the present century, and continued unchanged till 6th of March, 1822, date of a law passed by the chambers by which 120$000 reis was fixed as the value of a mark of gold coined, the piece of gold of 4 ounces, was worth before 6$400 reis, becoming of the value of 7$500. The regulations of this law, which later on was repealed, together with all others which had originated from the Cortes of 1820, were ratified shortly after by a law dated 24th November, 1823, and special charter of the 5th June, 1824. Later on, the legal relation between the two metals rose to 16, the preamble of the law of 1822 deciding that the equivalent of 13.5 was very far from expressing the proportion of their mercantile value, it being found by this fact that gold money was practically out of circulation and considered more as mercantile goods than as an instrument of change.

By the law of the 24th April, 1835, the value of the silver mark coined was fixed at 7$500 reis, which brought the equivalent approximately to 15.5, considering it as a mean rate of the current money of the two metals, both national and foreign; and in this way it was adopted. Nevertheless, this did not prevent that, on the 3d March, 1847, a new law was passed raising to 128$000 reis the value of a coined gold mark, and giving gold pieces of 7$500 reis the value of 8$000 reis. Other acts were passed afterward, which adopted the new legal relation of 16.5, the value of some of the foreign moneys and national coins of the country, which were current here, but not at all closed the gaps of the legislation of 1835, which had raised the mark of silver coined without putting this alteration in accord with the value of existing money, and yet the fact of the value of 4$500 reis of the sovereign not corresponding exactly to the 128$000 reis of the gold coined mark gave place to the existence of a series of equivalents, which, when compared to the different kinds of current moneys, gave the different proportions

of 16.51, 16.58, 16.66, 16.78:1. This legal relation of 16.5, and which in reality reached, as we have just shown, 16.78, could not for certain express the real state of facts, and therefore, as was natural, led to an exportation of silver, which in vain was attempted to be checked by the law of 30th January, 1851, which, among other regulations, ordered the levying of 100 to a 1,000 reis per mark as export tax on that metal.

Summing up what precedes, it is seen that the equivalent between moneys of gold and silver, considered in Portugal during the first half of this century as legal money, was subject during that period to the following alterations:

In 1800	13.5
By law of 6th March, 1822	16
By law of 24th April, 1835	15.5
By law of 3d March, 1847	16.5

Then ceasing in 1854 with the adoption of gold as the only standard, and putting an end to the necessity of fixing new equivalents.

The first of these relations, expressed by 13.5, fixed in 1745, and continued in force during the first twenty-two years of the century, found itself in total disagreement with that which the production of the two metals and its trade would naturally establish between both in the principal markets of the world. The monetary system of France fixed then, in the belief of the real equivalent being such, the number 15.5, supposed to keep thus during a longer period of time without any sensible change. And yet, according to the report compiled in 1839 by Messrs. Dumas and DeColmont, in 1807 the relation was expressed not by 15.5 but by more than 16, it even reaching 16.228 and keeping for many years to the first of these two figures. It is generally known that the difference between the legal value and market value of gold was nearly completely ignored in the French currency, reducing the said currency to one unique metal, silver. With us, where similar differences take greater proportions, identical causes could not but produce identical results, it being well understood how much it would be sure, seeing that the preamble which accompanied the law of the 6th March, 1822, proved that in altering the legal relation between the two metals the General Cortes constituted by the Portuguese nation made it a necessity "to bring into circulation the gold money, of which at the time the legal value was found to be inferior to that corresponding to it in specie." This passed in a country where during the eighteenth century the gold of Brazil flowed in such large quantities, money of this metal having been coined in a very marked quantity during the reign of D. John V, and, as proved by the legislative measures passed by that monarch and his predecessor, D. Pedro II, a large exportation took place of silver, another consequence of its great mercantile value.

The following figures extracted from the "Statistics of gold, silver, copper, and bronze money coined at the mint of Lisbon from the 1st January, 1752, to the 31st December, 1871," published in 1873, prove abundantly that silver was really the basis of currency of Portuguese money in 1822:

Gold and silver money coined in the mint of Lisbon from 1800 *to* 1821.

GOLD.	
From 1800 to 1809	1.817:006$160
From 1810 to 1821	347:424$320
SILVER.	
From 1800 to 1809	3.659:870$810
From 1810 to 1821	17.031:443$180

It is seen thus that gold hardly attained in total approximately a tenth of silver coined, the latter amounting to 20.691:313$900, whilst the former does not exceed the limited figure of 2.164:430$480 reis.

The commercial equivalent of 16 being established in 1822, the coinage of gold thereby rose that year and the next to 4.361:840$750 reis up to 1835, it having been then 4.777:854$500 reis; and during the same period of 13 years coined silver did not exceed 2.209:627$360 reis. From 1836 to 1846, a period during which the proportion of 15.5 was in force, 2.332:199$360 were still coined in silver and merely 65.965$000 in gold.

Again in 1847 the equivalent was raised and fixed at 16.5, but nevertheless the time was badly chosen, as the product of gold mines in Russia began to be appreciated, and it was on the eve of the discovery of the important mines of California. The result of the disagreement between the precept of the law and the reality of the facts was greatly more aggravated still in 1851, with the extraordinary Australian products, which brought about that foreign money, and, above all, the gold sovereign, which became nearly exclusively the current money of the country. The law of 1854 sanctioned this state of things, established gold as the only standard of value, permitted the legal currency of the sovereign, as well as of the old national coin, the 8$000-reis piece, of which there still exist considerable numbers in the country, and which possess the assay of English money, containing $\frac{11}{12}$ of pure metal, free from alloy.

C. What quantity of silver and gold, respectively, is estimated to be in such country in the form of coin or bullion; and what portion of the coins are subsidiary; and for what amount are such subsidiary coins a legal tender in the payment of debts?

The English sovereigns and half sovereigns representing legal money, and it being with such coins that the circulation is nearly wholly carried out, it would be necessary, in order to give the question a satisfactory answer, to know the movement of exportation and importation of that money, at least during a certain period of time, it being less than nine years since a regular publication of our custom-house statistics was published sufficient to base a sure estimate of its present quantity in our country. As precious metals in bars are not kept in Portugal in any great quantity, it may suffice to compute the amount of sovereigns and coined gold, coined in virtue of the law of 1854, which had to be kept in the country, in order to represent, with a greater approximation, the value, or rather the quantity, of gold kept in it at present to satisfy the exigencies or requirements of circulation, it being undeniable that pieces and half pieces of the old Portuguese money, whose currency is authorized, would be in proportion to the sum total a very limited fraction to be added.

However incomplete may be the elements on which we can lay our hands in order to form an approximate estimate of the metallic currency of the country, we will do so, admitting that the calculations to which we have recourse might be subject to correction, and hardly represent a base on which will be settled in Portugal proper the latest indications which might lead to a final settlement more approaching to the truth.

The gold coined in the mint of Lisbon, the only one in the kingdom, from the 12th December, 1855, to the 30th of September, 1875, that is, before the promulgation of the law in vigor now, did not exceed the small quantity of 4.737:472$000 reis, being divided as follows:

Rs. 5$000 or $\frac{1}{2}$ crowns, of 8.868 grams	3.569.515$000
Rs. 2$000 or $\frac{1}{5}$ crowns, of 3.547 grams	1.099.900$000
Rs. 1$000 or $\frac{1}{10}$ crowns, of 1.774 grams	68.057$000

which is equal to a weight of gold of 8,401,906,592 grams.

In the examination which we have already made on the commercial movement of precious metals in Portugal, it is stated that during the fifteen years in which were published the customs statistics between 1843 and 1873, the country imported gold to more than 12.100:000$000 reis, which, however, represents an annual mean value of 800.000$000 reis. This mean rate ought nevertheless to be below the real amount, for, whereas the greater importation of gold was taking place in the years after 1854, and in the customs statistics there exists precisely a considerable gap between 1856 to 1869, a short term of internal difficulties of a different order determined an exportation of more than 5.000.000$000 reis of gold, and came by itself to influence very powerfully the reduction of the above mean rate. Thus, these reasons being raised, and without fear of being in error in stating 1.000.000$000 reis and multiplying this, thus including the nineteen years between 1843 and 1876, of which no statistics are existing, the figure 19.000.000$000 reis is obtained to be added to the totals above.

It now remains simply to estimate what was the quantity of gold existing in Portugal in 1843, in national money and in sovereigns, and unite finally each part whose addition represents the amount existing of that circulating medium in the country. It is well for this purpose to note that the false equivalent of 13.5, in force up to 1822, determined, as already noticed, the expulsion of gold from circulation, subsequent to that date, the introduction of sovereigns having commenced in Portugal with a probability of permanency from 1816. From that time a tendency, however, began to substitute for gold coinage silver currency, it not being an exaggeration to suppose that existing sovereigns in 1843, added to the amount which then existed in old national money, made up a total of from 10 to 15.000.000$000 reis.

The gold money actually current in Portugal will have reached a total of 50.000:000$000 reis, approximately representing a mass of gold of nine thousand kilograms, assayed at 916⅔.

On the other side, from the 1st August, 1854, to the 30th September, 1875, subsidiary money was coined to the amount of 8.142:436$400, being subdivided thus:

500 reis, weighing 12.5 grams	7.107.605$000
200 reis, weighing 5 grams	737.039$000
100 reis, weighing 2.5 grams	238.270$200
50 reis, weighing 1.25 grams	59.522$200

which is equal to a total weight of silver of 203.561 kilograms assayed at 916⅔.

As this money is really a soft money, it must be kept to its full value in currency, there being hardly any authority to represent the sum-total of silver coined existing in the country, to add to that amount to the old money whose currency must finish according to law on the 30th of June of the current year, this way diminishing sensibly the fraction which could preserve still its primitive importance.

In summing up the whole, it is seen that the metallic currency in Portugal will not be far from 56 to 60.000.000$000 reis, of which 46 to 50 in gold and 10 in silver.

In testifying before the commission which directed the inquiry which was taking place in France in 1869 and 1870, relative to the monetary question, Messrs. de Parien, Le Touzé, Hendricks, and Victor Bonnet were agreed in estimating the metallic currency of Great Britain, which is under great restrictions on account of the peculiar laws of the country, to about one hundred million pounds. Mr. Surra y Rull estimates the metallic currency in Spain to be about 2,120,000,000 francs, and that

of France by Mr. Le Touzé to 5 or 6 milliards of francs. In proportion to these countries and in harmony with the number of its people, if the figures just given are reliable, Portugal would have to possess, in proportion to England, 60.000.000$000; in proportion to Spain, 90.000.000$000; in proportion to France, 94 to 113.000.000$000.

Thus France being considered a country which possesses a quantity of specie relatively very large, also, in relation to Spain, whose economical conditions have a great similarity to those of Portugal, any exaggeration in the calculation appears to us to conclude toward the accuracy of the amount, being from 56. to 60.000.000$000 reis, which we have adduced already.

The emission of silver and copper money can only take place when previously authorized by the legislature, which must always fix its amount. Of similar authorizations the most recent bears date 10th April, 1875, in virtue of which the amount of 400.000$000 reis of silver money was coined. There does not, however, seem to exist an absolute limit to the issue of subsidiary money, the coinage of silver money having from the first been raised beyond the actual want of the period by means of orders too often repeated. Nevertheless the same cannot, as regards actual necessities, now be affirmed, as the existence of coined money in the bank is nearly nil, the want of money for exchange being felt both in Lisbon and Porto as well as in the provinces, which have absorbed the greater part of the money coined since 1854.

The limit of sums in silver money, which can, according to the law of 1854, enter into payments is 5$000 reis. There exists, however, in the commercial circle of Lisbon, and for some long time, a custom generally recognized, to receive in payments a one-third of the amount in copper, a custom which no law sanctioned; the only decree which refers to payments in copper being that of the 17th February, 1699, of the time of D. Pedro II, which established 100 reis as the limit of the sum to be received in that specie.

Divers circumstances of political and financial origin had to coin in Portugal in the first quarter of the century, and still during a part of the second, a considerable sum of money of bronze and copper, the first with an intrinsic value of about 50 per cent. nominal, and the second in proportion still more unfavorable, as it was hardly 30 per cent., producing, according to what was stated in Parliament in 1854, 150 reis of bronze in 560 reis after being coined. This coining of bronze money, which began in 1811, ceased, however, in 1835, through an article inserted in the law on monetary reform of the 24th of April of that year. Later on, the exportation of silver resulting from the less exact legal relation between the two precious metals, facilitated in this way the issuing of copper money, this fact bringing about the necessity of representing this subsidiary money by notes of the Bank of Portugal, in whose coffers the accumulation reached 500.000$000.

The legislation of 1854, not referring to the question of copper except to sanction the continuation of the issuing of notes representing that money, left open in the monetary system an important gap, which was the object of great attention on the occasion of the respective discussions in the house of deputies, and up till now has not been settled, it being always withdrawn before the consideration of expenses which would bring about the withdrawal of bronze, especially as some short time ago it was affirmed more than once in the report presented to the house of deputies in 1875 by the present minister of finance.

It can be said that at least a future reform prejudiced this, for since 1835 the coinage of bronze was left off and the issues of money of cop-

per, authorized by different laws posterior to 1854, did not exceed a very limited sum, it being certain that copper money of the smallest class is to-day in demand through the daily necessity of currency.

It is well to add that through the clumsiness of their make, and the immense profit which can be derived from falsifying, coinage of 40-reis pieces has given rise to considerable counterfeiting, but no estimate of the amount can be formed.

From 1811 to 1834, a period which includes, as we have said, the coinage of all the bronze money, 1,033,750,582 kilograms of that alloy was coined, to which it gave the nominal value of 1,181,694$600 reis; the difference between the said value and the real being, as has been stated, 70 per cent. approximately, and the losses resulting from the substitution of this money and amounting to 700.000$000 reis. For this the coinage of new copper money for change gave little compensation as was found necessary in this case.

The total amount of copper money coined previous to 1854 was 621:243$445 reis, and those pieces whose issue has been more lately effected according to different permissions, of which the last is dated 30th September, 1875, hardly amount to 28.040$000 reis.

D. What quantity is estimated to exist in the form of plate, jewelry, or other articles susceptible of being converted into coin?

Sufficient elements do not exist to make an estimate of any reliability.

E. What sums of paper notes—government, bank, and individual, severally—are there estimated to be in circulation as money in this country? Are they legal tenders or not; and if they are, to what extent are they legal tenders: for all classes of debts or payments, or only for some classes? Are they convertible, at the option of the holder, into coin; and if not, what is their present relation of market value to the metal standard?

The only paper-note representative of money which circulates in the country is the bank-note in force with respect to the issue of two different classes, one in the circle of the administrative district of Lisbon, the other out of it. By the first the monopoly of issue is conferred on the Bank of Portugal, an establishment which has a capital of 8.000.000$000 reis, and to which also belongs the right of issuing its notes in the rest of the country without any exception, with the advantage of being received and considered in the department of national finances as metal money, without creditors of the state being obliged to receive them in payment of their credits. Out of the district of Lisbon there exists a number of issues, depending on a special legislative order, any bank having the power, when in Porto or in the provinces, and organized according to the general principles which according to the law of 22d June, 1867, regulated the formation and existence of anonymous societies, to include in its operations the issuing of bank-notes. The fiduciary paper issued by these establishments does not, however, have the privilege of being received as metal by public receivers, as that privilege, as already stated, belongs exclusively to the notes of the Bank of Portugal, but between private parties its acceptance is not obligatory.

The establishments which issue notes number at present throughout the kingdom nine: one in Lisbon, five in Porto, and three in the provinces. Different reasons and causes have prevented up till now that the fiduciary circulation should assume in Portugal an equal importance to that in other countries, it being certain that chiefly since the serious monetary crisis which occurred last August in the two markets of Lisbon and Porto, the public powers are occupied more than ever with the revision of the general and private legislation which regulates banking establishments in this country.

On the 31st December, 1875, the total fiduciary circulation in the country was, according to an official document published by the ministry of public works, commerce, and industry, 4.771.587$000 reis, the amount being subdivided thus:

	Reis.
Bank of Portugal	3.425.646$000
Five Porto banks	1.085.606$000
Three provincial banks	260.335$000

The crisis to which we have referred modified, however, these figures, so much so that on 31st October the total circulation was reduced to 3.434:844$000 reis, as follows:

	Reis.
Notes of Bank of Portugal	3.296.750$000
Notes of five banks of Porto	127.604$000
Notes of banks in provinces	10.400$000

To make it clear, and as a necessary mean to arrive at a better appreciation of these figures, we shall add that at the last of the dates referred to the total of the banks which issue notes and of the deposits was, with the exception of three of small importance, the amount of deposit to order or at sight of 16.221.701$429 reis, (it had been on the 31st December, 1875, 24.515:434$747 reis;) existence of money in hand, 7.236,803$343 reis; letters discounted, 23.590:280$399 reis; loans on pledges, 10.547:323$822 reis; and guaranteed current accounts, 10.394:467$316 reis.

The capital of all these banks rose to over 56.000.000$000 reis, and that of the issuing banks 21,195.000$000 reis, thus:

Bank of Portugal	8.000.000$000
Banks of Porto	11.200.000$000
Banks of provinces	1.995.000$000

It is just to add that a part of the currency of the Bank of Portugal is representing copper money, which on account of the unfinished state of the monetary reform of 1854 had been left to accumulate in its coffers to an amount, as we have stated, of over 500.000$000 reis.

F. What has been the annual mining product of gold and silver, respectively, in such country during the present century?

Mines of gold and silver do not exist in Portugal.

No. 3. To what causes are attributable the changes that have taken place in such country in the relative value of gold and silver?

No. 4. Are these causes regarded as permanent, or is it believed to be likely that they will ultimately be overcome by the relative cost of producing or procuring the precious metals, or by other influences or considerations?

No. 5. What effect, if any, have such changes in the relative market value of gold and silver had upon the trade, commerce, finance, and productive industries of such country, and upon its legal standard of value, or the legislation or measure of government connected therewith?

The relative insignificance of the monetary markets of Portugal and the close relation maintained with the English market remove the interest to any considerations which might be made in answer to the two first questions, it being certain that it is in the markets regulating the price, where transactions daily take place, which give the basis of the trade in precious metals and direct acquisition from the producing countries, that appreciation can better be made of the causes which influence its relative value and the degree of permanency which it presents.

In the same way the third question would demand, in order to be fully answered in the first part, investigations and studies which have not been entered into here, as the essential elements necessary in any case

are wanting, and even if the few existing facts were availed, a long period would have to elapse before any certainty as to statements could be arrived at. As this appears the only way in order to satisfy without any delay the wish preferred, we refer to what has been said in the No. 1 B as an answer to the second part of the question.

No. 6. Upon what terms of seigniorage or brassage are gold and silver bullion respectively coined in such country? Are there any legal limits, and if so, what are they, to the coinage of either gold or silver? Does the government monopolize the coinage, or are private mints permitted? Are gold or silver coins of other countries imported and permitted to be used as legal, and if so, at what rates? Are gold and silver coins manufactured for and exported to foreign countries? Are any subsidiary coins whose emission is limited by law or regulation imitated and introduced surreptitiously into the country to which you are accredited? And if so, to what estimated amounts?

By means of a tax of 1,000 reis per kilogram, it is permitted by the law of 1854 to any individual, bank, or association to coin crowns and divisions of crowns, of whatever amount of gold assayed at 916⅔. With an intention of facilitating the coining of that metal, and nationalizing the money, the different laws which were successively prorogued up till the 30th July of the current year, the period for the exchange and circulation of the old silver coins, also allowed up to the said date the benefit of the suppression of the coining tax of 1,000 reis, giving up the gold received for coinage after being coined, without any deduction for the state.

Similar advantages, however, are not sufficient to give an appreciable result, being, as we have said, limited to the amount of gold coined according to the law of 1854.

The only mint existing in this country, the only one which the law authorizes, is the mint of Lisbon, directed by an employé of the government, dependent on the ministry of finances. There, gold is coined in indefinite quantities, according to the government demands, and, as we have seen, at the demand of private parties, the law not fixing the limit for the coinage of this metal; and also silver and copper, but these latter only according to government orders, and within the figure of the issues authorized by the Cortes.

The circulation of gold in Portugal consists exclusively of English sovereigns. Already, in the circular order of the 3d December, 1812, the King, D. João VI, being absent in the Brazils, and the country being governed by a regency under the powerful influence of England, it was ordered that English gold money of the United Kingdom should be current, giving a guinea the value of 3.733 reis and with a weight of 2 ounces and 24 grains, and the half-guinea the value of 1.866.5 reis and a weight of 1 ounce 12 grains. Later on, the sovereign being created in England, its currency commenced in Portugal, where afterward it took predominancy, which brought about several legislative measures by which the conditions of this currency were fixed. Thus, for example, a decree of the regency established in the island of Terceira, (Azores,) in the name of the Queen, Doña Maria II, ordered on the 16th of March, 1830, that the legal rate of English gold money should be fixed thus: The sovereign was valued at 4.410 reis in hard money and 5,175 reis, soft money, as in the Archipelago all money is 25 per cent. more value than on the continent. Dom Pedro IV, when regent, again renewed this act by decree of the 20th August, 1832, dated from Porto, that, excepting other foreign money whose currency was admitted, sovereigns should be admitted at a fixed value of 4.140 reis. On the 15th November, 1833, another decree annulled these acts, throwing out of currency all foreign money and with it sovereigns. The suppression of paper money decreed on the 23d July, 1834, again

showed the necessity to admit on even weight Spanish and Mexican dollars, the English sovereigns having the current value of 4.120 reis, limiting the period of its legal currency to six months. Since this last date, notwithstanding the restriction of the time, this money became so rooted in the country that all subsequent monetary laws could not alter the fact, but attempted at times to regulate it. The decree of the 23d June, 1846, and February 24, 1847, allowed the currency of the sovereign and half-sovereign, with a value of 4.500 reis and 2.250 reis respectively. The law of the 30th of January, 1851, which put an end to the legal currency in the kingdom of all foreign gold money from the United States, Brazils, republics of South America, and others, authorized by successive decrees of 1846 and 1847, during which Portugal passed through a very serious political and financial crisis, excepted, however, from this suppression English sovereigns and half-sovereigns, which continued to be current at the same value which then, as at present, they possessed. This exception becomes more noteworthy as the purpose of the author of the law, Marquis d'Avila and Bolama, then minister of finances, was to be able later on, and with the help of other laws adopted at the time relative to coinage and a change in the weight of national money, to substitute this for the present circulating medium, and eventually abolishing the currency of the sovereign. But whatever may have been the idea and aim of the government and of the house, as it was declared many times, and especially on the occasion of a discussion, in many ways interesting, which took place in the house of deputies in 1854, on the monetary reform now in force, facts were too powerful, and three years after the predominance of that money showed itself with more force, as it could also be helped by the fact that the legal value of a coined gold mark in national money being 128$000, sovereigns 4.500, corresponding to 129$400 reis, which still show a slight advantage in favor of foreign money, which serves as auxiliary of another kind in favor of its propagation. After the reform of 1854 the legal currency of the sovereign could not but be once more confirmed, and the English monetary system was adjusted to the system established in Portugal and the proportionate value of national money to sovereigns fixed at 4.500 reis with the weight of 7.981 grams and the assay 916⅔ per thousand.

In conclusion, we have yet to say, so as to reply fully to the last part of the question, that although the relation of gold and silver by the law of 1854 was fixed at 1:14.11, the actual relation was and is still more inferior to the mercantile value, which caused at times a dread of serious counterfeiting, but such counterfeiting not having taken place, at least in appreciable quantity, it can be said that the actual currency of the country is free from such embarassment.

When, in reply to prior questions or to this one, I have mentioned the relation of the monetary currency in Portugal, it was in reference exclusively to the continental part of the country. In the archipelago of the Azores and Madeira many special circumstances took away from the government up to the present the power to apply the law of 1854 to those insular districts, which rules over all foreign money, Spanish, American, and English—a fact which makes us resolve to make a slight answer to this anomaly.

The slight importance of transactions between the continent and the islands, the want of regularity in the communications making it difficult for a long while to import national money in the islands, brought a good many coins of different sources to which successive legislative measures attributed a value without any relation to its intrinsic value,

and yet, with that of the money current on the continent, made it finally necessary to assign to it a proportional value to that of foreign money in order to allow it permanence in the markets of the islands. The money in circulation in the islands is soft and abundant, and it can be estimated that the relation of legal value of the money in the Azores and that value on the continent is expressed in reis by 5 to 4 in the Azores and 16 to 5 in Madeira; the 8$000-reis piece being worth 10$000 in the Azores, and in Madeira a £ sterling of 4.500 reis is worth 4$800 reis.

In the parliamentary session of 1875, the present minister of finance presented a bill intended to establish in the islands the monetary system of the continent, but this project did not, however, pass.

As a complement we shall add that in the mint some money has lately been coined, particularly copper, for the use of the colonies and specially for Angola, but in a very limited quantity.

No. 7. State the annual imports and exports of coin and bullion.

Anterior to 1865, the official publications relative to the commercial intercourse with foreign countries were made out irregularly, a lapse of some years taking place between the publication of the several volumes of the "General maps of commerce in Portugal," which are far from forming a connected series. From them the following statements in reality incomplete have been extracted, but still contain a certain amount of facts sufficient to appreciate the progress of importation and exportation of precious metals in Portugal.

Years.	Gold.		Silver.	
	Imports.	Exports.	Imports.	Exports.
1843, '48, '51	1, 727, 393$000	148, 753$000	73, 086$000	1, 458, 939$000
1855, '56, '61	5, 663, 081$000	392. 530$000	139, 572$000	3, 802, 030$000
1865, '66, '67, '68, '69	3, 624, 469$000	8, 681, 446$000	194, 196$000	1, 277, 835$000
1870, '71, '72, '73	10, 436, 504$000	143, 906$000	52, 906$000	421, 795$000

In analyzing this statement it is noticed that in 1842–'48–'51, anterior to the Portuguese monetary reform, the two last dates, through the depreciation of gold resulting from the then recent discoveries of mines in California and Australia, Portugal lost the amount of 1,835,853$000 reis of silver, acquiring on the other hand 1,578,640$000 reis of gold. The general causes which brought about at the time in our money markets the expulsion of silver and its substitution by the depreciated metal, increased in this country, since 1854, the importance of the monetary reform, according to which the standard adopted was gold, reducing the silver money to the condition of subsidiary agent in the currency. Such is the reason why in the three years 1855–'56 and 1861, which followed immediately the reform, the progress of exportation of silver accelerated itself, the difference between this exportation and the value of the metal imported being 3,662,458$000 reis against a final importation of gold of 5,270,551$000. Finally, causes purely internal joined to circumstances, and the financial, economical, and agricultural condition of the country brought on in the years 1865 to 1869, a loss of 1,083,639$000 reis in silver, and 5,056,977$000 reis in gold; in 1870 to 1873, a period during which the circumstances referred to ceased, an acquisition in gold of 10,287,598$000 reis took place and a loss of silver of not exceeding 368,889$000 reis.

In the fifteen years of which there exists a record of the import and

export of precious metals among us, in bar and coined, there was an increase in importation of gold of 21,451,447$000 reis and a diminution of 9,371,635$000, which shows an increase in the value of the existing gold metal of 12,079,812$000 reis, giving on the other hand a continued fall in silver on account of a diminution in the coinage of that metal not under 6,500,839$000 reis, all of which is the natural result of the monetary reform of 1854.

No. 8. Upon what terms is the mining of the precious metals permitted? Is there a limit, legal or customary, and, if so, what is it, to the area which a miner may occupy or work? Is such mining taxed; and, if so, to what extent? Are gold and silver taxed in any other way than in production or coinage; and, if so, to what extent? Are such taxes evaded in practice; and, if so, to what estimated extent?

We have already had occasion of noticing in this work the fact that there exist in Portugal no mines or deposits of either of the two precious metals, it being sufficient in order to reply to this question to say that the importation of gold and silver in money and in bar being free, the gold money is subject to tax of importation of 1$000 reis per kilogram and silver to 500 reis for the same weight, to these taxes being added the amount of additionals to the value of 3 per cent. The smallness of such tax, which does not come to 0.2 per cent. ad valorem for gold and does not exceed 1.6 per cent. for silver, certainly puts a stop to the establishment of fraud, notwithstanding that through some form its existence is known.

No. 9. Make such references to authorities and transmit such publication or other documentary evidence as will support the replies given, or tend to afford the commission further information on the subject.

"Discussion in the house of deputies relative to the law of 29th July, 1854, published in the Diario das Sessões of the same year."

"Essays on the current moneys in Portugal from the time of the Romans up to 1856, by Manuel Bernarda Lopes Fernandez, active member of the Royal Academy of Science of Lisbon. Lisbon, 1857."

This essay contains an abridgment of the Portuguese law on money before 1854. It is not, however, quite correct, and contains important gaps.

For older but more complete information, and compiled on a different basis, if to be had at present in Lisbon, is the following work: "General Description and Histories of Moneys Coined in the Name of Kings, Regents, and Governors of Portugal, by H. C. Teixeira de Aragæ. Lisbon, 1874."

At present there exist hardly any copies of the first volume, which contains the laws on money in Portugal up to 23d May, 1635, when the country was still governed by D. Philip III of Portugal and IV of Spain.

"Statistics of gold, silver, copper, and bronze money, coined in the mint of Lisbon from the 1st January, 1752, according to the books which exist in that department. Lisbon, 1873."

SPAIN.

A.—Mr. Adee to Mr. Fish. Dispatch, March 5, 1874, No. 184, on monetary system of Spain.
B.—Mr. Cushing to Mr. Fish. Dispatch, July 7, 1876, No. 1020, on monetary system of Spain.
C.—Mr. Adee to Mr. Fish. Dispatch, December 17, 1876, No. 464, replying to interrogatories B of commission.
C 1.—Speech of minister of hacienda in Cortes, December 11, 1876, (omitted.)
C 2.—Proposed bases of existing monetary system, published 1869, (omitted.)
C 3.—Compilation of mining laws, (omitted.)
C 4.—Statistics of Spanish coinage, 1861 to 1873.
C 5.—Royal order, October 25, 1876.
C 6.—Minister of hacienda to the King, August 20, 1876.
C 7.—Royal decree, August 20, 1876.
C 8.—Report of consulting junta of the mint of relative value of gold and silver, &c., August 20, 1876.
D.—Mr. Cushing to Mr. Fish, February 7, 1877.
D 1.—Decree of March 21, 1871.
E.—Señor Silvela to Mr. Cushing, January 28, 1877.
F.—Mr. Cushing to Señor Silvela, February 7, 1877.

A.

Mr. Adee to Mr. Fish.

No. 184.] UNITED STATES LEGATION IN SPAIN,
Madrid, March 5, 1874.

SIR: Referring to General Sickles's No. 965, of January 17th last, I have the honor to forward herewith a translation of a note from the minister of state, dated the 28th ultimo, together with the original inclosures therewith received, containing information relative to the present system of coinage in Spain, furnished by the minister of finance, in reference to the request made by this legation on the 4th of May last, through the foreign office.

In addition to the details thus obtained, I may remark that the special gold coinage provided for in the decree of October 19, 1868, has not yet been put in circulation. During the reign of the late King, and even under the republic, the bullion acquired by the mint has been coined as *doblones* or "*Isabelinos*" of the value of 100 reales vellon, bearing the bust of Queen Isabel II, and dated 1868. The gold coins in circulation are the *onza*, of the value of 320 reales vellon; the *media onza*, of 160 reals; the old *doblon*, of 80 reales; the gold *escuds*, of 40 reales, and the *escudits*, of 20 reales, all previous to 1848; and the new *doblon*, of 100 reales, the *pieza de dos duros*, of 40 reales, and *pieza de un duro*, of 20 reales, of subsequent dates.

Of the silver coinage decreed by the provisional government, the dollar, the piece of two pesetas, the peseta, and the half-peseta, have all entered into circulation. Silver dollars were also coined during Amadeo's reign, bearing his profile. In the latter part of 1871, in consequence of an unlucky accident to the die prepared for King Amadeo, a large quantity of silver bullion purchased in England was struck into

pesos fuertes or *duros* of 20 reales from the last dies of Queen Isabel's reign, of date 1868. The silver coins in circulation are the *duro* or *peso fuerte;* the *medio duro* or *escudo*, of 10 reales; the *peseta columnaria* of 5 reales, and the *media peseta columnaria* of 2½ reales—these two latter being rarely seen in use; the *peseta*, of 4 reales; the *media peseta* of 2 reales, and the *real vellon.*

The copper coins of Spain, before the issue of the inclosed decree, will be found described in the printed instruction of 1870, which accompanies Mr. Sagasta's note. All those ordered in Figuerola's decree have been struck. Besides these a small Moorish coin, of cast bronze, called the *orchavita* or *moneda de dosmaravedises*, and of which seventeen and a half are equivalent to a real, are largely circulated in petty trade. The maravedis, the *old monetary unit of Spain*, has never had any other than an imaginary and traditional existence.

I am, sir, &c.,

A. AGUSTUS ADEE.

APPENDIX.—(No. 184.)

Mr. Praxedes Mateo Sagasta to Mr. Adee.

[Translation.]

MINISTRY OF STATE,
Madrid, February 28, 1874. (Rec'd March 3, 1874.)

SIR: In reply to the note from your legation, dated 4th May last, I have the honor to inform you that the minister of finance has sent me the inclosed decree concerning monetary systems, which was issued on the 19th of October, 1863, (*sic*,) as also a copy of the regulations which, in virtue thereof, were established for the recall of ancient coinage, and the emission of the new issues, which documents fully respond to the inquiries presented in the above-mentioned note.

I improve this occasion to repeat to you the assurances of my distinguished consideration.

SAGASTA.

Mr. Adee to Mr. Fish.

No. 233.] LEGATION OF THE UNITED STATES,
Madrid, August 24, 1876.

SIR: The Official Gazette of yesterday published a royal decree, dated 20th instant, for the unification of the monetary system of Spain by the coinage of gold pieces of the value of 25 pesetas, in accordance with the provisions of Mr. Figuerola's decree of October 19, 1868.

My own dispatch (No. 184) of March 5, 1874, and Mr. Cushing's more recent (No. 1020) of the 7th ultimo, will have shown you the confusion into which the monetary issues of Spain had fallen through the successive legislative changes of the past twelve years, and the need of reform in this respect.

Mr. Figuerola's scheme was a good one in its conception, for, in adopting the French franc of five grams of silver as the monetary unit, under the local designation of peseta, he not only fixed a unit varying but little from the standards already in use in Spain, but also opened the way for the admission of this country into the international finan-

cial concert of Europe, either by general and tacit consent on the part of the other nations having the same system, or by subsequent formal adhesion to the monetary conference of December 24, 1865.

Unfortunately, however, for the entire success of his scheme, a powerful influence was at work to prevent its being put into complete operation. The Bank of Spain, holding gold coin and bullion in bars to amounts ranging at different times from ten to twenty millions, opposed the immediate coinage of the new gold standard, leaving the law, however, to be carried out in respect to silver. The consequence was that while the *centen* or *doblon de oro* of Queen Isabel's reign remained the standard of value in adjusting international rates of exchange, a flood of silver coinage was poured upon the country, bearing to the gold mercantile unit a *nominal* relation of 19 to 20, but *intrinsically* worth from 10 to 20 per cent. less than that, owing to the diminished weight, increased alloy, and decline in the price of silver in all the markets of the world.

But the singular fact of the case is that these new silver tokens, mere disks of metal having forced circulation at a nominal rate in excess of their intrinsic worth, were not only received and paid at that fiduciary value, but at a value some 5 per cent. in excess thereof, taking their places, for all purposes of domestic exchange, side by side with the dollars and pesetas of Queen Isabel's reign, and, like them, accepted as of current and interchangeable value with the previously-existing gold coinage.

This state of things was kept up by the combined action of the mint and the Bank of Spain, the former coining indiscriminately silver money from the dies of Queen Isabel, the provisional government of 1869–'70, the brief reign of King Amadeo, and that of Alfonso XII, and emitting all the while fresh gold coinage from the dies of 1868, while the latter changed its circulation, and its current accounts of deposit from the recently adopted unit of the *escudo* (10 *reals*, or say 50 cents) to the *peseta* unit, (of which 2½ *pesetas* count as only 48 cents,) without payment or credit of any difference whatever, notwithstanding that the decree-law of Mr. Figuerola contemplated conversion from one unit to the other at fixed rates of exchange, in conformity with which elaborate tables of equivalents were prepared and put in circulation without, so far as I am aware, having ever exerted the slightest influence on commercial or financial transactions.

And this conversion of units of account having been effected, without perturbation of the public credit on this score in any perceptible degree by the Bank of Spain, as above described, and by the government on a much larger scale in the recasting of the public estimates and accounts on the basis of the peseta-franc, the bank withdraws its opposition to the new gold coinage, and will forthwith, it is announced, send to the mint some two millions of dollars' worth of gold bullion to be coined in accordance with the decree now published.

This decree provides, first, for the coinage of gold pieces of 25 *pesetas*, in exact conformity with Mr. Figuerola's law, (see my No. 284;) secondly, for the purchase of gold in sufficient quantities; thirdly, that when the amount of gold in circulation shall be deemed sufficient, the amount of silver allowed as legal-tender shall be reduced to 150 *pesetas*; fourthly, (and fifthly,) for the acquisition of native silver for coinage under certain restrictions; and sixthly, giving to the minister of finance discretionary power in matters of coinage not covered by the decree.

I call your attention to the very interesting and able report of Mr. Lope Gisbert, in the name of the consultative board of the mint to

which was referred the question of acquiring silver for coinage, and of the coinage both of that metal and of gold. The argument therein contained, to show the advantage of the government's abandoning the system heretofore followed of receiving pure silver bullion for coinage and returning to the owner as many silver coins as could be struck therefrom, and adopting in its place the return of a fixed number of *pesetas*, say 200, for each kilogram of bullion delivered, is worthy of attention at the present time, in view of the great depreciation of silver and its practical demonetization. An intelligent Spaniard, in discussing this topic with me this morning, said, in substance: "Silver is fluctuating; if you coin it to-day to correspond exactly with gold, to-morrow your money may be debased and demonetized for the effects of a dual standard, or driven out of circulation by reason of being worth more than its twine-brother. Leave it as it is, a mere token of value. But let the government make the profit, not the speculators. To return all the tokens, which can be struck out of a mass of metal of inferior worth, is absurd. Tell me, in Italy or Austria, or your own Union, do you take a ream of paper to the treasury and receive in exchange all the currency which can be fabricated from it? Caramba! of course you do not."

Without venturing to indorse my friend's financial views, I merely add that Spain, by taking this new step, gives another proof of her inherent vitality, in not only successfully resisting hitherto the expedient of an inconvertible paper currency, to which her desperate straits of the past seven years of revolutionary fever might not unpardonably have driven her, but also in changing her unit of account without marked perturbation, and in joining the ranks of the far richer nations of Europe who hold that a silver piece, whatever its intrinsic worth, is merely a promise on the part of the government whose stamp it bears to pay on demand the amount of gold due on its face value.

* * * * * * *

I have the honor to be, &c.,

A. AUGUSTUS ADEE.

B.

Mr. Cushing to Mr. Fish.

No. 1020.] LEGATION OF THE UNITED STATES,
Madrid, July 7, 1876.

SIR: The Spanish government encounters great difficulties in its earnest efforts to regulate the public finances and to make a practical compromise with the national creditors.

In the first place, while it finds the three great money-markets of London, Brussels, and Amsterdam to be reasonably disposed, it does not enjoy equal favor in Madrid and Paris.

Secondly, it is harassed by the unseasonable eloquence, or factious loquacity rather, of the opposition in the Cortes.

* * * * * * *

The coinage of Spain is in a state of pitiable confusion; while it has demonetized silver, it has done nothing to fix the present relation of that metal to gold. The gold coins in use are of $5, $4, $2, and $1; the silver, of dollars, half-dollars, (escudos,) double pesetas, (40 cents,) pesetas, (20 cents,) and two reales, (10 cents.) Meantime, the bank paper is partly in escudos and partly in pesetas. So far, all is plain; but not so

with the copper coinage; for that is not adapted to any one standard, some being in so many hundredths of a peseta, resolvable of course into reales, some being into *cuartos* (quarters) and *ochavos*, (eighths,) which do not stand on any unit, and much of it being in strange little amorphous bits of base metal, in tons of which the Sultan of Morocco pays the indemnity stipulated at the close of the war between Morocco and Spain.

Such is the financial and monetary chaos into which this country, worthy of better things, has been brought by sixty-five years of foreign or civil war, pronunciamientos, and party or dynastic revolutions.

I have the honor, &c.,

C. CUSHING.

C.

No. 464.] LEGATION OF THE UNITED STATES,
Madrid, December 17, 1876.

SIR: Referring to my No. 458, of the 10th instant, I have to state that no reply has as yet been received from the minister of state in response to the inquiries contained in my note to him of October 7 last, relating to the comparative values of gold and silver in Spain and the legislation affecting the same. I am, therefore, obliged to make report on the subject unaided, except by such scanty information as I have been able to collect privately, apprehensive, however, that even this imperfect report may not reach the Monetary Committee in season to be of possible utility in framing its forthcoming report.

I take up, in the first place, the interrogatories propounded to the representatives of the United States abroad.

1. No change of importance has taken place in the *relative* value of gold and silver as *money* during the past twenty years. The reduction of the units of value in 1868, in assimilation with those of the Latin Union, still preserved the relative value of the two coinages within narrow limits. And although the coinage of gold as reduced did not follow that of silver for nearly eight years, the mixed money of the country circulated interchangeably and without perturbation, as explained in my No. 233. Since 1864, when the *centon*, or piece of 100 reales of Isabel II, received its final adjustment as to weight, fineness, and allowance, there have been fluctuations in the price of gold corresponding to the value thereof in the London market, imposing at times a loss as compared with the peseta standard of 3.53 per cent. or more on the government in the coinage of gold purchased in that market for the supply of the mint.

2. I have no means of ascertaining the exact extent of such fluctuations. They have depended upon London quotations, as the English bullion prices have governed those of the non-gold-producing countries of the continent.

(A.) The production of native silver being a monopoly, or under governmental control, its market-value, as bullion, in Spain, has depended on the London price of such surplus as may have been exported after satisfying the demands of the mint for coinage. There has been little exportation during the last few years. Since 1871, some silver has been imported by the government, for the pay of the troops, &c.

(B.) The standard of value is legally bi-metallic. Gold is legal tender to an unlimited extent. In the abnormal relations of the two standards, caused by the tardy reduction of that of gold to coincide with the unit of the Latin Union, silver is also unlimited legal tender, by the Figú-

erola law of 1868, in 5-peseta pieces. The present scarcity of gold of the new issue retains silver for a time longer as unlimited legal tender. When a sufficient quantity of the new gold coin shall be in circulation the limit of silver as legal tender will be fixed, not to exceed 150 pesetas. (Decree of August 20, 1876, article 3.)

(C.) I do not know the actual or estimated amount of gold and silver in Spain in the form of coin or bullion. The subsidiary coinage of the country is in pieces of two and one peseta, and fifty and twenty céntimos of a peseta. They are legal tender among private individuals to the amount of fifty pesetas, but are received by the government without limit. (Decree of October 19, 1868, article 4.)

(D.) I have no means of ascertaining the quantity of plate, jewelry, and other articles in Spain susceptible of conversion into coin. The amount of plate formerly held by the nobility as heirlooms was enormous, much of it dating from the time when the treasures of the New World flowed into the mother country without stint. Madame d'Aulnoy, who wrote in the reign of Philip IV, states that the Duke of Alburquerque possessed fourteen hundred dozen dinner-plates, fifty great salvers, and seven hundred dishes of exceedingly massive silver; while the Duke of Alba, who was rather poorly supplied as things then were, had six hundred dozen plates and eight hundred dishes. Kitchen-utensils and the commonest vessels were of silver. And the Duc de Saint Simon mentions that the palace of the Duke of Alburquerque was furnished with suits of splendid furniture, of which the frame-work, instead of being of wood, was of massive silver. Yet, in the midst of all this sterile, and now by-gone, opulence, the currency of the country was of bronze. These same nobles received the rentals of their estates in great ox-carts laden with maravedises; and after quarter-day their households were employed, *en masse*, for a week or two, in counting the loads of copper received and storing it in baskets in the cellars of their palaces, to be paid out, as occasion required, to their numerous retinue or for the daily needs of their establishments.

(E.) The notes of the Bank of Spain are the only legal-tender paper money in circulation here. The bank has branches in the provinces to the number of nineteen. The circulation of the present bank and of the several branches is local—that is, a Madrid note will not be redeemed at Malaga, and *vice versa*. The total amount now in circulation is 153 millions of pesetas, of which the bulk is in Madrid. The provincial notes are cashed on presentation in silver. Those in Madrid are cashed only to the extent of 100 pesetas, the lowest circulating notes being of 50 pesetas. The difficulty of obtaining change, owing to temporary circumstances, is very great, and the money-changers vend silver at $1\frac{1}{2}$ or $1\frac{3}{4}$ per cent. premium, while the new gold issue is at from $2\frac{1}{4}$ to 3 per cent. premium. The old coinage is, of course, now demonetized by the recently-effected change of standard. Against this circulating liability the bank holds over 100 millions of pesetas in old coin and bullion, the law requiring a reserve of but 38 millions—that is, one-fourth of the circulation.

(F.) Spain produces little or no gold. Within a few weeks, rediscoveries of ancient gold-mines in Guadalajara, formerly worked by the Romans, are reported, and may possibly turn out to be of importance. I do not know the annual production of silver.

3. The relative prices of gold and silver in Spain as metals obey the fluctuations of the English bullion-market. Variations in the native production of silver do not affect the home commerce appreciably. If there is a surplus above the requirements of coinage, it is exported. A

considerable quantity of silver is indirectly exported in the form of argentiferous ores, to be worked abroad.

4. The fluctuations in the value of metallic silver in Spain are not regarded as permanent. They are not local, and any change in the relative cost of producing native silver would be an inappreciable factor in the results of the great monetary problems now being worked out in the East, in Russia, in Germany, and in America.

5. In answer to this, I can only say that the effects of the changes in the relative market-values of gold and silver upon the trade, commerce, finances, and productive industries of Spain are so small, in comparison with the overshadowing influences of the past eight years, as to be practically inappreciable. The turmoil of revolution, and of change for the mere sake of change; the enormous increase of taxation consequent upon the financial straits of the country; the impoverishment of the national resources due to almost continued civil war; and the well-nigh complete exhaustion of the credit of the state, are causes which operate far more potentially to raise the cost of living in Spain. To estimate the additional influence of the money fluctuations of the country would be, so far as I am concerned, idle conjecture. That they are unimportant is shown by the facts that Spain has preserved a bi-metallic specie standard through these disastrous years, and has equalized her gold and silver currency, reducing it from the old standard to a lower one without serious perturbations. (See my No. 233.)

6. The terms on which the government effects the coinage of gold or silver are fixed, for the present, in the decree of August 20, 1876, of which copy was sent to you with my No. 233. I do not know of any legal limits to the coinage of either gold or silver. It is contemplated to continue that of gold until the needs of the country are supplied.

The government monopolizes the gold and silver coinage, no private mints being permitted for those metals. I believe it is proposed to contract for the importation of bronze coinage, while the mints are overstrained as at present in the production of gold and silver. Under old laws, the English sovereign and the French Napoleon are permitted to circulate at the legal rate of 96 and 76 reales respectively, and the 5-franc piece of silver (here called a *Napoleon*) had legal course as 19 reales. No measures have yet been taken for admitting the free circulation of the gold and silver money of the nations which have adhered to the monetary convention of 1865. As the adhesion of Spain to the continental system would involve the compression of her silver circulation within fixed limits, to be settled by international agreement in accordance with the convention of 1874, I presume that some time must yet elapse before an arrangement can be effected whereby the coinage of Spain can circulate everywhere side by side with the coinage of those nations to which it is now in fact assimilated. No coins are manufactured for or exported to other countries. And of the subsidiary coins, those of bronze are manufactured clandestinely in Spain, or introduced surreptitiously from foreign ports into the provinces of Spain, where copper is in great part the medium of circulation. In the Balearic Islands alone, a recent investigation showed the existence of spurious bronze coins (*calderilla*) to the amount of many thousands of dollars, to the result of almost paralyzing local trade there.

7. I have not been able to ascertain the annual imports and exports of coin and bullion, this being an inquiry to be best answered by the government. The Bank of Spain now holds some 28 millions of pesetas in gold bars, all imported from England within a year or two.

8. I have not had time to investigate the mining laws of Spain. A

copy of the collected laws is sent herewith, which will afford answer to the separate queries contained in this interrogatory.

9. The replies to the foregoing interrogatories are based for the most part on reading, on general knowledge, and on the special laws and documents which will be hereinafter particularized in reply to the second series of interrogatories addressed to the director of the mint, and to which no official answer has yet been returned. As a document possessing much interest of actuality, and embracing valuable information, I send you hereto appended, the Gaceta's report (C 1) of the session of the congress on the 11th instant, which contains a speech by the minister of hacienda on the question of compelling the Bank of Spain to redeem its notes in specie, in whatever sums tendered. The chamber supported the government and the bank by a vote of 156 to 41.

I turn now to the interrogatories and requests addressed to the chief officers of foreign mints, which accompanied your circular of September 18, to which this dispatch is in answer.

1. I send, hereto appended, the mining laws of Spain, so far as published. Appendix C 2, giving the proposed bases for the present system of legislation, was published officially in 1869.

Appendix C 3 is a recently published compilation of the existing mining laws, and although unofficial, is presumed to be accurate. A copy of the Figuerola coinage law of October 19, 1868, was sent to you with my No. 184 of March 5, 1874. All the present coinage of Spain, gold, silver, and bronze, is in exact conformity with that law. I regret that it is not practicable to send another copy thereof in company with this dispatch, as the Gaceta of October 20, 1868, in which it was published, has long been out of print, and time fails for making a manuscript copy for the use of the commission.

2. Appendix D (C 4) gives the statistics of Spanish coinage from 1861 to 1873, as published in the Guia de España. All the gold coined during 1869, 1870, 1871, 1872, and 1873 was in *centones* from the dies of Isabel II, and was of the old legal fineness and weight, being produced, as before explained, at a loss of 3.53 per cent., as compared with the legal standard value of the peseta, and at times at an additional loss, according to the price of bullion in the English market. Those same *centones* are now purchased by the mint at the rate of 25.90 pesetas apiece, in small quantities, and by weight in larger amounts, at the rate of 3.093^{10} pesetas per kilogram, in bulk, or at the rate of 3.444^{44} pesetas per kilogram of fine gold, if melted and refined. (See the royal order of October 25, 1876, in Appendix E.) C 5.

I have not access to any statistics of production and movement of bullion during those years.

Since 1873 the coinage of the old *centimes* above mentioned has been abandoned. The production of silver coinage in that time has been about $50,000 daily, exclusive of Sundays and solemn feast days. The present coinage of gold is about two and a half millions of *reales* (say $125,000) daily, as stated by the minister of finance in his speech of the 11th instant. (Appendix A.)

3. I have no means of answering the inquiry whether any changes have occurred in the conditions or facilities affecting the production of silver by improved means or processes. The silver mines of Spain are of argentiferous lead ore and quicksilver, and I understand that the processes employed for the separation of the precious metal from the baser matrix are fully equal in delicacy and correctness to those employed in Germany and elsewhere.

4. Owners of bullion brought to the mint for coinage are paid in the

order of time, the greatest delay never exceeding thirty days. The conditions of presentation of native silver are given in the decree of August 20, 1876. (See Appendix A of my No. 233.)

For the terms of acquiring gold for coinage see the royal order of October 25, 1876. (Appendix E.)

5. I am, of course, in the dark as to contemplated legislative or governmental measures with reference to the metallic standard of value, or to the mining or coinage of the precious metals. Such inquiry can only be authoritatively answered in the proper official quarters. It may be presumed, however, that at no distant day, when a more rapid daily coinage and emission of the new gold is attained, that the amount of silver as legal tender will be fixed by law, in accordance with article 3 of the decree of August 20, 1876. And it is likely also that, in proportion as the new gold enters into circulation, and the Bank of Spain accomplishes the coinage of the bullion now in its vaults, the present obstacles to the free redemption of the notes of the bank will disappear, and the present premium on gold and silver will cease, or become merely nominal.

I have treated the question of the relative positions of gold and silver as money, in my No. 233, at some length. My No. 184, with its inclosures, and Mr. Cushing's No. 1020, also treat of the same matter, and I venture to suggest that they be laid before the committee.

It does not seem to me to be necessary to add any appreciations of my own to the foregoing scanty exposition of such facts as I have been able to gather in response to your circular-instruction of September 18. The few ideas which I have formed on the subject are mainly founded on the arguments of the very able and exhaustive article on the depreciation of silver, published in No. 296 of the Edinburgh Review, for October last; and with this the members of the committee are doubtless already familiar.

I desire particularly to call the attention of the committee to the very instructive report on the relative values of gold and silver in Spain, and the best methods of procuring those metals for coinage, made by the consultative junta of the mint, to which the matter was referred, through its reporter, Don Lope Gisbert, of which a copy accompanied my No. 233. I inclose herewith, for more convenient reference, copies of the Gaceta of August 23, 1876, containing that report, (C 6,) and also the decree of August 20, (C 7 and 8) founded professedly thereon.

In addition to the inclosures with this dispatch, I send you by mail, registered as usual, a package containing duplicates of the mining laws of Spain, and of some of the Gacetas herein mentioned.

I have the honor to be, very respectfully, your obedient servant,

A. AUGUSTUS ADEE.

The Hon. HAMILTON FISH,
Secretary of State.

C 4.

APPENDIX D. (No. 464.)

Statistics of Spanish coinage, 1861 *to* 1873.

[From La Guia Oficial de España, 1873-'74.—Translation.]

1.—GOLD.

Years.	Centenes, value in pesetas.	40-real pieces, value in pesetas.	20-real pieces, value in pesetas.
1861	73,564,625	618,420	1,614,485
1862 and first months of 1863	64,001,175	3,728,640	57,885
1863-'64	79,694,850	6,765,190	12,945
1864-'65	39,011,375	21,822,970	651,755
1865-'66	18,645,625	21,423,150	474,335
1866-'67	16,184,750	32,614,880	None
1867-'68	5,474,600	12,854,180	32,095
1868-'69	50,356,650	6,805,030	None
1869-'70	75,553,475	None	None
1870-'71	44,444,325	None	None
1871-'72	63,756,200	None	None
1872 to end of May, 1873	86,727,475	None	None
Total pesetas	617,424,125	106,632,460	2,843,500

NOTE.—The *centen* is here given at its old value of 25 pesetas of Isabel II.

Spanish coinage, 1861 *to* 1873.

2.—SILVER.

Years.	Dollars.	Escudos, (10 reals.)	Double pesetas.	Pesetas.	½-pesetas.	1-real pieces.
1861	6,347,690	396,325.00		5,948	4,180.50	5,189.50
1862 and first 6 months of 1863	2,204,690	7,365,900.00		1,699,336	183,730.50	5,949.00
1863-'64	4,842,890	7,164,350.00		2,462,586	4,552.00	19,263.00
1864-'65	None	3,883,142.50		6,588,961	None	None
1865-'66	6,440	6,306,999.50		8,811,041	11,541.00	3,974.00
1866-'67	None	5,169,290.00		16,918,546	2,736 50	2,164.50
1867-'68	4,838,915	1,543,365.00		4,286,944	147,487.50	5,307.00
1868-'69	1,530,940	1,383,567.50	194,468	6,878,125	None	None
1869-'70	13,274,310	None	9,353,160	6,488,453	226,361.50	
1870-'71	67,230,095		7,925,226	2,741,987	269,901.00	1,017.40
1871-'72	33,216,600		None	None	None	None
1872-'73	35,066,290		None	None	None	
Total	128,558,860	47,102,932.50	17,472,854	56,881,927	850,490.50	42,864.40

NOTE.—The amounts seem to express values in pesetas, although the published table does not say so. A. A. A.

C 5.

Royal order of October 25, 1876, relative to the terms of acquiring gold for coinage.

MINISTERIO DE HACIENDA

Reales órdenes.

EXCMO. SR.: He dado cuenta á S. M. el Rey (Q. D. G.) de la consulta elevada por V. E. á este ministerio con fecha 16 del corriente, en la que propone las reglas que en su opinion deberán dictarse para facilitar los actos de admision en esa casa de la moneda de oro que se presente con objeto de recuñarla á virtud de lo mandado en la real órden de 13 del mismo mes, y para que en dichos actos resulten debidamente garantidos tanto los intereses del tesoro como los de los presentadores de la moneda; y en su vista S. M. se ha servido mandar:

1° Que cuando se presenten para su reacuñacion en esa casa centenes de Isabel II en cantidad que exceda de 200 monedas, se fundan de reconocimiento por cuenta del presentador, que deberá abonar los gastos de la fundicion, y se valoren las pastas que resulten á razon de 3,444 pesetas 44 céntimos por kilógramo de fino.

2° Que si la cantidad de dichos centenes que se presenten con el objeto indicado excede de 10 y no pasa de 200 monedas, se pesen en las balanzas de esa casa, y se valore su peso al tipo de 3,093 pesetas 10 céntimos por kilógramo.

3° Que cuando solo se presenten al mismo fin 10 ó ménos monedas de los centenes citados, se abonen al presentador 25 pesetas 40 céntimos por cada una de ellas si su milésimo ó año de acuñacion es anterior al de 1854, y no tiene señales de habérsele extraido por cualquier medio ó procedimiento.

4° Y por último, que en el mismo caso de que trata la disposicion anterior, y cuando el milésimo de la moneda sea del año 1854, ó de los sucesivos hasta 1868 inclusive, se abonen al presentador por cada una de ellas 25 pesetas 90 céntimos, si tampoco tiene señales de habérsele extraido algun oro.

De real órden, y por resolucion á la consulta citada, lo digo á V. E. para su cumplimiento; debiendo añadirle que en cualquiera otro caso no comprendido en las disposiciones de esta real órden deberá atenerse á lo mandado en la ántes citada de 13 del corriente.

Dios guarde á V. E. muchos años.

Madrid 25 de Octubre de 1876.

BARZANALLANA.

Sr. superintendente de la casa de moneda de esta corte.

C 6.

Informe de la Junta consultiva de moneda á que se refiere el real decreto anterior, y que fué acordado en la sesion que celebró dicha Junta el dia 4 de este mes, á la que asistieron el sr. ministro de hacienda, presidente, y los Sres. Vocales D. Alejandro Olivan, Don Antonio Echenique, director general del tesoro; Don José Gonzalez Breto, D. Juan Surrá y Rull, D. Fernando Cos-Gayon, D. Ramon Serrano, superintendente de la casa de moneda de esta corte, y D. Lope Gisbert; siendo este último ponente.

EXCMO. SR.: La atencion de todos los gobiernos y de todos los economistas se ha fijado hace tiempo, pero mas intensamente que nunca en los momentos presentes, sobre la gravísima cuestion monetaria. Desde

tiempo inmemorial la fijeza de valor que relativamente gozaban los metales llamados preciosos, el oro y la plata, los habia hecho elegir como medida general y comun del resto de los valores. Las pequeñas variaciones que en trascurso de siglos sufrieron aquellos, como, por ejemplo, la ocasionada al descubrirse las Américas, no produjeron perturbaciones graves en el comercio, y así, tanto la plata como el oro, venian sin interrupcion desempeñando su funcion de moneda, sirviendo de patron, ya el uno de ellos, como en Inglaterra, ya los dos, como en Francia y en España.

Pero de pronto el hallazgo de ricos criaderos en la América del Norte, y la variacion del sistema monetario en la moderna Alemania, han aumentado grandemente la produccion y han disminuido el empleo respecto de la plata, ocasionando un rápido descenso en su precio y sujetándola á las oscilaciones y á la inseguridad de cualquier otro artículo de comercio, bajo la dura ley de la oferta y de la demanda, con lo cual le han robado aquella condicion de fijeza esencialmente necesaria para servir de comun medida al valor del resto de los artículos.

El resultado de esta gran novedad ha sido que teniendo los gobiernos europeos que usan la plata como patron monetario, acomodado su sistema al valor usual y corriente de aquel metal, al producirse la baja se han encontrado con que sus monedas-tipos de plata tienen un valor intrínseco muy inferior al de su curso legal; y que, por consiguiente, al darse en pago no pagan realmente ni la cosa ni el servicio, con perjuicio notorio del vendedor de la una ó del prestador del otro, estableciendo su curso una relacion ficticia de valores, que no es ni mas ni ménos que el curso forzoso disfrazado de un valor fiduciario que, en vez de estar francamente representado por un papel, lo está por un disco metálico, el cual se diferencia del papel en que no vale como este intrínsecamente cero; pero vale de 16 á 20 por 100 ménos de lo que legalmente se la supone, atendida la proporcion de fino que contiene y comparado su valor con el del oro circulante.

Y los gobiernos todos han comprendido que si por un lado no podian variar repentinamente su moneda-tipo de plata aumentando su peso para que su valor real estuviera en armonía con su valor legal, porque esto habria producido gran confusion en el sistema monetario, tampoco podian seguir acuñando sin restriccion alguna aquella moneda, produciendo con su indefinido aumento y su circulacion necesaria una perturbacion en los valores dentro de cada pais y un desnivel en los cambios entre los paises que en tal error persistieran y los mas afortunados, que lo hubieran remediado á tiempo, como la Alemania, ó no hubieran estado nunca expuestos á él, como la Inglaterra, por haber tenido siempre la moneda-patron de oro.

El medio á que los mencionados gobiernos acudieron, y era el único en verdad, fué el restringir grandemente la acuñacion de la moneda de plata, y unos, como los de Bélgica é Italia, visto el pingüe beneficio que en ella se hacia, se lo reservaron á sí mismos, excluyendo por completo á los particulares; miéntras otros, como el de Francia, en donde nunca se acuñaba de cuenta del estado y en donde las casas de moneda corren á cargo de una empresa, dejaron á los particulares todo el beneficio; si bien aun Francia, misma ha seguido al fin el ejemplo de sus coligadas y ha cambiado de sistema, estableciendo aquella acuñacion, como derecho especial y propio del estado.

España, aunque un poco mas tarde que las otras naciones bi-metalistas, conoció la situacion y acudió á su remedio. El dignísimo antecesor de V. E. estudió la cuestion profundamente y acordó respetar los contratos de acuñacion de plata que encontró celebrados, mandando á la vez no

hacer ninguno nuevo. Así lo cumplió y mas tarde decidió tácitamente que la acuñacion se hiciera por cuenta del estado; puesto que dispuso admitir en la casa de la moneda las pastas procedentes de la industria nacional, no para ser acuñadas en la forma prescrita por el decreto-ley de 1868, sino para pagarlas á un precio dado, reservando para el estado la diferencia entre aquel precio de la pasta y el valor de la misma transformada en monedas.

Esta situacion, creada por simples órdenes ministeriales, ha venido á ser confirmada por la ley de presupuestos votada en Córtes para el año económico corriente, cuyo artículo 3º adicional establece de un modo directo y absoluto que durante el mismo año la acuñacion de la moneda de plata solo se hará de cuenta del estado.

Y el gobierno, de esta manera autorizado, ha querido asesorarse sobre el modo de hacer uso de semejante facultad, y restableciendo la Junta consultiva de la moneda, ha tenido á bien preguntarle de un modo concreto en real órden de 24 de Julio último cual es la forma mas conveniente de adquirir la plata que en cumplimiento de la ley ha de acuñarse.

Y la Junta, cumpliendo á toda conciencia tan delicado encargo y despues de detenidas discusiones, ha llegado á un acuerdo aceptado por todos los indivíduos presentes; acuerdo que en conclusiones concretas tendrá la honra de exponer á V. E. al terminar esta parte primera de su dictámen.

Mas, para consultar al gobierno cual es la forma mas conveniente de adquirir las pastas de plata que ha de acuñar aquel por su cuenta, la Junta ha creido que ante todas cosas era necesario discutir cual ha de ser la amplitud que deba darse á la acuñacion de moneda de dicho metal durante el ejercicio corriente; porque segun fuera la cantidad que hubiera de acuñarse, así serian unos ú otros los medios que para su adquisicion habrian de proponerse. Y en este primer punto la Junta no ha vacilado un momento: cree con invencible creencia que, habiendo la baja del valor de la plata alterado la antigua relacion entre este metal y el oro y roto el aproximado equilibrio que ántes existia entre el valor intrínseco y el valor legal del duro, ha perdido este, por la fuerza invencible de aquel hecho, su legal carácter de moneda-tipo y se ha convertido en una moneda auxiliar, como ya lo eran ántes la peseta y la doble peseta; y que por consiguiente, el gobierno está obligado á reducir su acuñacion á un *minimum*, á la cantidad que un cálculo prudencial designe como necesaria para las transaciones menores en un pais como el nuestro, en que tan acostumbrado se está á la moneda pequeña.

Y esta restriccion, que de un modo tan absoluto establece la Junta como obligatoria, no la funda simplemente en las racionales leyes económicas de los valores y en la teoría de la moneda, sino en altos principios de moral que prohiben á todo gobierno atribuirse un lucro con lesion conocida de un interes social ó de un principio; lesion que aquí existe, porque el duro vale ménos de lo que representa y desde que una moneda se halla en esta condicion, causa un perjuicio evidente al que la toma, fiado en la garantía del nombre y en la fé del cuño. No puede, pues, en modo alguno el gobierno seguir autorizando semejante moneda como moneda-tipo, como moneda de perfecto pago, sino que tiene el deber moral de relegarla al cuadro de las monedas auxiliares, y autorizarla solo en este concepto sin engañar á nadie; no puede darla sino como da la peseta y como da la moneda de bronce; y por consiguiente, así como ántes no podia acuñar pesetas sino dentro de ciertos límites, así tambien ahora no debe acuñar duros sino dentro de los mismos límites; es decir, hasta la cantidad que se crea necesaria en union con

las pesetas para atender á las transaciones menores, que es el oficio de las monedas auxiliares.

Para calcular esta cantidad la Junta no cree que se debe tomar en cuenta la singular demanda de moneda de plata que se ha sentido en los últimos tiempos; porque esta demanda procedia ó de la absoluta falta ó de la mayor carestía de la moneda de oro, que obligaba á la industria y al comercio á pretender la de plata para el servicio de todas sus atenciones y que hacia convertir y guardar en la misma especie todas las economías en el interior de la mayor parte de nuestras provincias.

Tan luego como se acuñe oro, segun la Junta tendrá el honor de proponer en la segunda parte de este informe, el oro irá sustituyendo á la plata en los pagos de alguna cuantía, é irá ademas á desalojar de sus escondrijos á la plata guardada, obligándola á salir á la plaza y á esparcirse por la circulacion.

Por esta causa clarísima opina la Junta que habiendo exigido las necesidades de la circulacion total desde 1868 hasta el presente 1,300 millones de reales—es decir, unos 200 millones de reales al año—podrá bastar largamente para las necesidades menores del tráfico una suma igual á la cuarta ó á lo mas á la tercera parte de aquella; es decir, unos 50 ó 60 millones de reales, siempre que se atienda á las grandes operaciones del comercio con abundante produccion de moneda de oro.

Con esto llegamos ya al punto concreto de la consulta: á discurrir cual es el medio que el gobierno deberá adoptar para adquirir la cantidad de pastas que requirir la acuñacion de la suma que se propone.

La Junta solo cree que hay dos sistemas esencialmente diversos: el uno es fijar un precio como impropiamente se dice y recibir por él las pastas que se presenten en períodos marcados de antemano, y el otro el de abrir subastas parciales, ó hacer una total, tomando las pastas que mas baratas se ofrezcan.

Este segundo sistema parecia el mas beneficioso al estado, y desde luego la Junta se habria decidido por él, si consideraciones de otra órden diversa, pero altamente atendibles, no la hubieran obligado á decidirse por el contrario.

En efecto y ante todas cosas, aquí no se trata de un suministro sometido á las leyes generales de contratacion por cuenta del estado, como cuando se trata de la hoja Virginia ó Habana, necesarias para la alimentacion de la industria monopolio de la renta del tabaco; y así es que miéntras hay en el presupuesto crédito para la compra de aquellas primeras materias, á nadie se le ha ocurrido ponerle para la compra de plata.

Y es que la plata no necesita *comprarse* para la acuñacion: lo que en los tiempos normales y con arreglo á la ley hace el gobierno es *recibir* la pasta y acuñarla, *devolviendo* al dueño *todas* las monedas que resultan de cada kilógramo de fino, con arreglo á la talla establecida; y en circunstancias anormales, como las presentes, cuando el gobierno por causas poderosísimas absorbe el privilegio de la acuñacion y suspende la ley ó la deroga, tampoco necesita *comprar* las pastas, sino que tambien las *recibe* y las acuña como ántes; pero en lugar de devolver al presentador *todas* las monedas resultantes, le devuelve solamente las que debe devolverle atendido el precio de la barra en el mercado, y se queda con el resto como un lucro accidental nacido de hechos inevitables y solo justificado por las circunstancias, segun queda explicado al comenzar de este informe. De modo que, aun cuando no hubiera otro órden de consideraciones, por solo aquel especial carácter del hecho de la acuñacion, no deberia el gobierno recurrir á la subasta, como no han recurrido ni Bélgica ni Italia al encontrarse en circunstancias análogas á las nuestras.

Pero hay ademas el otro órden de consideraciones á que ántes nos referiamos y de que ya pasamos á ocuparnos.

Tiene España una gran industria minera, la cual, como uno de sus ramos, produce una cantidad de plata no muy grande ciertamente, pero que contribuye mucho al sostenimiento de aquella, porque repartiéndose en pequeñas porciones sobre casi todo el plomo que se produce, y obteniéndose con el mismo trabajo que este se obtiene, viene á dar al producto general de la minería un aumento de valor que facilita el beneficio de muchos minerales que de otro modo habrian de desecharse.

Ademas la plata es un artículo que, cuando llega á cierta cantidad, no tiene mas que una salida, que es la acuñacion; y por esta causa siempre la casa de la moneda ha recibido la plata nacional y la ha acuñado con arreglo á la ley, entregando al dueño su total producto.

Ahora bien: si el gobierno por circunstancias especiales monopoliza la acuñacion, priva á aquel metal de su única aplicacion dentro de España y obliga á los productores ó á dejar de producir, con detrimento del trabajo y de la riqueza pública, ó á exportar su producto á mercados extranjeros, en donde ha de hallar invencibles competencias.

Ni una ni otra cosa puede hacer el gobierno de un pais que todavia protege todas las industrias naturales y muchísimas que no lo son, y que por lo tanto no puede tener dos medidas; una absolutamente libre-cambista para la industria de la plata y otra proteccionista para todas las demas industrias.

En este supuesto, pues, debe el gobierno, dispensando á la industria de que nos ocupamos en este instante la misma gracia que á las demas, protegerla ante su propio monopolio, ante el monopolio que se arroga por la necesidad, dándole á ella la preferencia y solo la preferencia sobre la plata extranjera.

Para esto basta que el gobierno establezca un tipo que estime razonable, como descuento que va á hacer á todo productor nacional que presente su plata á la acuñacion: basta que diga que en lugar de entregarle todas las monedas que produce cada kilógramo de fino, le entregará solo tantas, reservándose el resto como beneficio para el tesoro. Y basta que el gobierno tome las precauciones necesarias para asegurarse de que á la sombra de esta preferencia no se deslizan platas extranjeras, dejando á estas el poder acudir cuando las nacionales no alcancen á cubrir las sumas que se crean necesarias.

El procedimiento no puede ser mas sencillo, ni mas racional, ni mas patriótico: el estado, justificado por las circunstancias, monopoliza la acuñacion, se atribuye el lucro que de ella nace, pero no extrema su monopolio ni exagera su lucro á expensas de una industria que no tiene mas vida que la que le da la operacion ántes libre y hoy monopolizada, á cuyo estímulo se desarrolló y de que ahora de repente se le priva por el monopolio.

Y como la industria necesita cierta seguridad para hacer sus previsiones y sus cálculos de produccion, es necesario que lo que se llama, aunque no lo sea, precio de la plata en la casa de la moneda, se establezca para un período de tiempo prudencial, pero bastante á aquel fin; bien así como los tipos de los derechos del Arancel de Aduanas, que constituyen la proteccion de las demas industrias, se establecen por una ley permanente.

Como consecuencias de todo lo expuesto y como contestacion concreta á la primera pregunta del gobierno, la Junta tiene el honor de proponer á V. E. las siguientes conclusiones:

1ª Que el art. 3° adicional de la ley de presupuestos para el año económico corriente, al ordenar que durante este ejercicio la moneda de

plata se acuñará solamente por cuenta del gobierno, ha declarado de un modo implícito, pero sin embargo decisivo, que el duro de plata ha descendido á la categoría secundaria de moneda auxiliar.

2ª Que en este supuesto el gobierno no puede en modo alguno acuñar cantidades ilimitadas de aquella moneda, ni alimentar con ella toda la circulacion; sino que debe estrictamente reducirse á acuñar la cantidad que juzgue necesaria para atender al tráfico pequeño.

3ª Que descendiendo el duro á la categoría de moneda auxiliar, su admision en pago no puede ser obligatoria sino hasta una cantidad que fijara prudencialmente el gobierno y que puede ser la de 150 pesetas.

4ª Que á la circulacion general monetaria ha de atenderse por medio del oro, debiendo al efecto el gobierno establecer inmediatamente su acuñacion.

5ª Que para la acuñacion de la cantidad de moneda de plata que se juzgue necesaria, el gobierno admitirá en la casa de la moneda todas las pastas de produccion nacional, estableciendo préviamente que por cada kilógramo de fino que se le entregue devolverá durante el año económico corriente 200 pesetas de moneda acuñada.

6ª Que si la plata de produccion nacional no basta á cubrir la cantidad que estime necesaria el gobierno, podrá este admitir las extranjeras en la misma forma y en virtud de disposiciones particulares para cada caso.

7ª Que para evitar que bajo el nombre de nacionales se presenten platas extranjeras, se adopten las tres precauciones siguientes: Primera, exigir á todo productor español que quiera llevar su plata á la casa de la moneda una declaracion del sistema que sigue, del número y clase de aparatos que emplea, del grado de concentracion á que levanta el plomo y del máximum mensual de plata que puede producir; segunda, que la plata se presente siempre en la casa de la moneda, acompañada de guias expedidas con las mismas formalidades que en la actualidad; y tercera, que la administracion, para asegurarse de la verdad de los hechos, pueda emplear todos los medios de comprobacion que posee.

Evacuada de esta manera la primera parte de su encargo, procede la Junta á desempeñar la segunda, que es la relativa á la acuñacion de la moneda de oro.

La real órden de 24 del pasado Julio ordena á la Junta informar con urgencia acerca de la talla de la moneda de este metal y de las clases de ella que deben acuñarse.

Asunto es este discutido y analizado por la Junta en anteriores ocasiones, y principalmente con motivo del informe que emitió en 5 de Febrero de 1868, y que, confirmado por el del consejo de estado en pleno en 20 de Mayo del mismo año, sirvió de base para la reforma monetaria decretada en 19 de Octubre siguiente.

Recomendaron entónces la Junta y el consejo de estado, y así lo acordó el gobierno, acuñar monedas de oro con arreglo al art. 2° del convenio monetario celebrado á 24 de Diciembre de 1865 entre Francia, Bélgica, Italia y Suiza. Esta es la ley vigente, y la Junta por lo tanto debe hoy limitarse á examinar si el tiempo trascurrido ha traido á la cuestion condiciones nuevas que aconsejen alguna modificacion á la legalidad existente. Desde la primera exposicion universal de 1851 habia cundido entre los hombres de ciencia en las naciones cultas un vivo deseo de marchar hácia la unificacion de pesos, medidas y monedas deseo que al tiempo de la exposicion universal de París de 1867 produjó, las conferencias internacionales celebradas en aquella capital, y dió lugar al unánime acuerdo de que debia adoptarse un sistema monetario universal, basado sobre el patron único de oro, y cuyas monedas estuvieran todas en relacion con la de oro de 5 francos del sistema francés.

Nuestra situacion monetaria por entónces era, como lo viene siendo desde hace mucho tiempo, la mas irregular imaginable. Regía á la sazon el sistéma creado por la ley de 1864: nuestra moneda principal era el centen de oro; pero no habiéndose llevado á cabo, á pesar de haberse dispuesto, la refundicion general de toda la moneda preexistente, circulaban á la par con las del nuevo sistema las monedas de cuantos sistemas le habian precedido desde el principio del siglo.

Creyó, pues, la Junta que cuando todas las naciones de orígen latino adoptaban el sistema monetario del convenio de 1865 y cuando Austria en su moneda de oro se acomodaba tambien al mismo estableciendo la de 8 florines, equivalente á 20 francos, debia España, que se encontraba en peor estado que calquiera otra, hacer un esfuerzo para terminar de una vez su confusion monetaria y asentar su sistema sobre las bases económicas admitidas por sus convecinas.

La moneda de oro del sistema de la convencion de 1865 debia tallarse á razon de 3,444.44 pesetas por kilógramo de fino, ó sean 13,777.77 rs., con arreglo á la ecuacion de 5 pesetas = 20 rs. establecida en el decreto de 23 de Marzo de 1869; y como la talla de 1864 producia solo 13,248 rs., resultaba á primera vista una rebaja de fino de 529.77 rs. por kilógramo, ó sea 3.99 por 100.

Esta rebaja, sin embargo, solo existia con relacion á los centenes de 1864; pues con relacion á la masa general de la moneda circulante aquella rebaja se reducia solamente á 2.72 por 100, porque muchos experimentos hechos en los años 1867 y 1868 habian demostrado que el término medio del valor de la moneda antigua circulante era de 13,413.31 rs. por kilógramo de fino, ó sea 364.46 rs. ménos del correspondiente á la talla de la convencion latina.

Ademas se esperaba que el privilegio de la circulacion internacional, que naturalmente debia alcanzar la moneda acuñada en la forma que se proponia, produciria un ahorro de ½ por 100, evitando los gastos y la pérdida de la exportacion y de la reacuñacion en el extranjero; por consiguiente, la verdadera diferencia entre la nueva moneda y el término medio de las antiguas quedaba entónces reducida á 2.22 por 100.

Tales fueron, expuestas sumariamente, las razones que la Junta adujó en su citado informe; y al emitirle ahora de nuevo, puede asegurar que el tiempo desde entónces trascurrido ha venido á confirmar las ventajas y ha reducido los inconvenientes que á la sazon se prevnian.

Porque la cuestion capital consiste en hacer una moneda de oro que satisfaga á dos condiciones, escencial la una, importantísima la otra. La primera es la de que su valor intrínseco sea el mas aproximado posible á su valor legal; la segunda es la dé que pueda ser admitida en el cambio internacional, como lo es la libra esterlina, como lo es nuestra antigua onza de oro, como lo es la actual pieza francesa de 20 francos; ó de que á lo ménos, si el comercio no la admite, no la desprecie en términos que por causa de ella se resientan nuestros cambios en el extranjero.

Ahora bien: habiendo subido el precio del oro desde 1864, ya por la disminucion de su produccion, que se ha reducido en 17 por 100 en el espacio de 18 años, ya tambien por su mayor demanda en el mercado á consecuencia de haberlo adoptado Alemania y alguna otra nacion como patron único monetario, sería de todo punto imposible acuñar hoy monedas á la talla de la ley de aquel año sin sufrir una perdida de mas de 3½ por 100.

En efecto, la onza standard de oro, que tiene 916⅔ por 100 de fino, y que pesa 31.10 gramos, cuesta hoy en Lóndres 77 chelines 9½ peniques; lo cual hace para el kilógramo de fino en Lóndres 136 libras, 11 chelines

y 2 dineros esterlines, que al cambio de 48 dineros esterlines por 20 rs. á corto equivalen á 13,643 rs.

Á esto hay que añadir la comision y los demas gastos hasta poner la barra en la casa de la moneda; gastos que, graduados á $\frac{3}{4}$ por 100, elevarian el precio del kilógramo de oro fino á 13,735 rs.

Y como el kilógramo de fino acuñado en centenes de 1864 solo produce 13,248 rs., habria una pérdida efectiva de 487 rs. en cada kilógramo, es decir, 3.53 por 100, que es lo que arriba indicamos.

Ademas, esta pérdida en la acuñacion se traduce en ganancia para la exportacion y la reacuñacion; de manera que si el gobierno acordara acuñar á aquella talla, él perderia 3.53 por 100 en cada acuñacion y la especulacion se apoderaria de la moneda para refundirla y venderle despues las barras con 3 por 100 de ganancia, suponiendo 0.53 de gastos en la operacion. De donde resultaria que el gobierno sufriria la pérdida y sin embargo no conseguiria subvenir á la circulacion, como ya aconteció en Francia en 1858.

No hay, pues, mas remedio que reducir la talla en la proporcion necesaria á evitar aquella pérdida, y esto se puede hacer adoptando la de la convencion de 1865, que es la del decreto-ley de 19 de Octubre de 1868. Segun este, y conforme ántes hemos dicho, el oro ha de tallarse en la proporcion de 13,777.77 rs. por kilógramo de fino, y como este kilógramo cuesta 13,735 rs., queda la pequeña diferencia de 42.77 rs. á favor de la acuñacion, diferencia tan exigua que no ha de tentar ciertamente á los especuladores y que probablemente obligará al gobierno á discurrir un medio de surtirse de pastas, si quiere, como debe, proveer de moneda de oro á nuestra necesitada circulacion.

Y hemos computado los gastos de la compra y traida de la pasta de oro á solo $\frac{3}{4}$ por 100, en los cuales no hemos incluido nada por interes del dinero invertido en la operacion y hemos calculado el cambio á corto á 48 dineros, que es descontar á 3 por 100 el papel á largo: por consiguiente, á poco que estas condiciones no sean tan favorables, con solo que los gastos se eleven á 1 por 100, el kilógramo de fino de oro puesto en Madrid costará 13,779 rs., y entónces habrá ya una pérdida de 2 rs. en kilógramo.

Bien sabe la Junta que las consideraciones que acaba de hacer, y en las cuales funda su consulta, son de un órden hasta cierto punto secundario, puesto que al tratar de la base de un sistema de monedas, la razon habia de buscarse en una consideracion abstracta, eminentemente científica, y no en un cálculo comercial, por mas que este cálculo sea muy veradadero y muy práctico.

Bien sabe la Junta que si se tratara de resolver la cuestion integramente y sin enlace alguno con lo establecido y con lo existente, deberia estudiar una moneda cuyo peso enlazara en algun modo con el sistema decimal de pesas y medias, segun se hizo en Francia al establecer el franco de plata como unidad típica, con el peso de 5 gramos.

Pero la Junta sabe tambien que en los momentos actuales, cuando se está operando una transformacion en la cuestion monetaria; cuando la relacion entre los dos metales-monedas se ha alterado tanto que no parece probable vuelva á su prístina proporcion, no pudiendo sin embargo asegurarse en qué punto de la escala llegará á fijarse, ó si por el contrario, subsistiendo las causas de la oscilacion, vendrá á ser esta el estado permanente y normal; cuando las naciones todas bimetalistas se quedan en suspenso ante el fenómeno económico que á todas ha sorprendido; cuando todo esto acontece, no es ciertamente el momento de lanzarse á novedades ni de inventar ingeniosos sistemas, sino de descender al cálculo práctico, acudir á lo conocido, imitar modestamente lo por otros

practicado, y esperar, así como todos, el desenlace de la crísis, que pasará dejándonos una enseñanza y dando probablemente ocasion á un progreso que no podemos determinar en este instante.

Debemos, pues, acuñar la moneda de oro que estableció el decreto-ley de 19 de Octubre de 1868, en la cual se verifica el hecho práctico, hoy esencialmente necesario, de aproximarse lo mas posible su valor intrínseco á su valor legal.

Pero hemos dicho que la moneda que se acuñe ha de poseer, ademas de la condicion esencial que acabamos de explicar, la condicion importantísima de poder ser aceptada en los paises extranjeros, ó la de que á lo ménos, si no logra ser admitida, no influya desfavorablemente en nuestros cambios exteriores.

Para este propósito poco importa, á juicio de la mayoría de la Junta, el número de unidades que represente cada pieza; la libra esterlina no enlaza con las piezas de 20 francos francesa ó belga, y ménos con la moneda neerlandesa, y sin embargo en París, en Bruselas y en La Haya se toma como moneda corriente la esterlina á un cambio de antemano reconocido y aceptado.

No habiendo entrado España en la convencion de 1865, no puede ser aceptada oficialmente su moneda de oro en las naciones convenidas, aunque la acuñe en todo igual á la de ellas: la aceptacion ha de ser voluntaria en aquellas naciones, lo mismo que las no convenidas; y para conquistar la aceptacion voluntaria lo necesario es lo que ántes hemos dicho: no que la moneda típica de oro equivalga á tantas ó cuantas unidades monetarias de cuenta, sino que valga lo que dice y que esté hecha fielmente, de modo que el comercio al tomarla tenga la seguridad perfecta de que recibe lo que cuenta recibir y no ménos.

Claro es que la moneda que la Junta propone tiene la cualidad de valer lo que dice que vale, segun se ha demostrado ántes: por consiguiente, bajo este punto de vista la moneda que se acuñe podrá ser aceptada voluntariamente por los extranjeros; y claro es que el gobierno para dar crédito á la nueva moneda puede tomar sus precauciones y llevar la acuñacion al grado de perfeccion que permiten los adelantos modernos.

Y por lo tanto, debemos razonablemente confiar que si acepta V. E. la propuesta de la Junta, y si despues con su reconocido celo hace V. E. que la acuñacion sea perfecta, la nueva moneda de oro española podrá al poco tiempo ser admitida con crédito en las naciones circunvecinas.

Esto supuesto, pocas palabras necesitará añadir la Junta para proponer á qué número de unidades de cuenta monetaria deberá tallarse la moneda de oro. Dos opiniones se han manifestado sobre este punto en las discusiones celebradas: la una, sostenida por un solo individuo, muy respetable por su especial competencia, ha sido la de acuñar piezas de á 20 pesetas; la otra, aceptada por el resto de los vocales presentes, ha sido la de acuñar piezas de 25 pesetas.

Para sostener la opinion primera se aduce la conveniencia de ponernos en completa consonancia con las naciones cuyo sistema efectivamente adoptamos, contando con que de este modo nuestra moneda de oro será facilísimamente aceptada en el cambio internacional, mezclándose insensible y naturalmente con las de las naciones convenidas.

Se dice tambien que si labramos la moneda de 20 pesetas equivalente á la de 20 francos, podremos hacer tratados especiales para su admision, no solo con Francia y con las demas naciones de la convencion, sino tambien con Austria, que ha sacrificado la comodidad de la cuenta interior á la facilidad de la admision exterior, puesto que para ajustarse á los 20 francos ha hecho su moneda de 8 florines, número verdaderamente

incómodo, porque no siendo 8 submultiplo de 100 no puede dar el 100, base general de toda cuenta, con un número exacto de piezas.

Ultimamente se añade que si batimos la moneda á otro número de unidades, nos va á suceder lo que nos ha sucedido al construir los ferro-carriles por haber dado á nuestras vias una anchura diversa de la que tienen las de Francia, y es que nuestras mercancías sufren trasbordo en la frontera, miéntras de Francia á Bélgica, de Bélgica á Holanda, de Holanda á Alemania, la mercancía, una vez embarcada, corre de línea en línea sin trasbordo alguno.

Para sostener la segunda opinion la mayoría de la Junta apela á la comodidad de la cuenta y al hábito inveterado de los españoles de contar por cientos de reales, prestándose la moneda de 25 pesetas tanto á aquella costumbre, que nadie desarraigará de nuestras gentes, al ménos en muchos y muchos años, cuanto á la cuenta legal por pesetas; puesto que cada cuatro monedas hacen 100 pesetas, pudiéndose formar con ellas fácilmente todos los multiplos de las grandes cuentas y de los grandes pagos por uno y por otro sistema; al paso que la moneda de 20 pesetas no dá el multiplo, tan comun en España, de 1,000 rs. sino por medio de 12 piezas y media. Dice tambien la Junta que en rigor científico la unificacion monetaria no consiste en el número de unidades á que una pieza equivale, sino en que el *valor de la unidad sea el mismo;* de modo que el que reciba una moneda de tantas ó de cuantas unidades esté seguro de recibir lo mismo que si en otras monedas recibe el mismo número de unidades. Así un francés ó un belga para recibir 1,000 francos, tanto admite 30 monedas de á 20 francos como 100 monedas de á 10, y lo mismo admitiria 40 de á 25 si en su pais las hubiera. Lo que él necesita es recibir en realidad 1,000 francos, en piezas de oro que los valgan; todo lo demas le importa poco.

Por consiguiente, ó nuestra unidad monetaria, la peseta, vale verdaderamente lo mismo que el franco y la lira, ó no lo vale. Si ya nuestra peseta vale lo mismo que el franco, la unificacion monetaria con Francia y sus aliadas y aun con Austria existe de hecho; y en este caso nuestra moneda de oro, cualquiera que sea el número de pesetas, francos, liras, semiflorines á que equivalga, será aceptada si merece serlo por sus demas condiciones; pues como ántes hemos dicho, el francés, el italiano, el austriaco, que hayan de recibir 1,000 pesetas equivalentes exactamente á 1,000 francos, 1,000 liras ó 1,000 medios florines, lo mismo recibiria 50 monedas de á 20 unidades que 40 de á 25, si unas y otras son buenas y merecen su completa confianza.

No cree, pues, la Junta en su casi unanimidad que aconsejando al gobierno la acuñacion de la pieza de 25 pesetas perjudique á esa tendencia hácia la unificacion monetaria, que, una vez aparecida en las sociedades europeas, ha de hacer su camino, como todas las grandes ideas, brillando unas veces y avanzando rápida, eclipsándose otras y suspendiéndose un tanto; pero nunca pereciendo por mas que se le opongan, como se oponen á otras unificaciones, cuya utilidad y posibilidad nadie se atreve á negar, pequeñas pasiones, pequeñas vanidades ó miras políticas é inveteradas costumbres.

La moneda era local y hasta familiar en algun tiempo; fué provincial despues; es hoy nacional; se trata de hacerla europea; alguna vez llegará á ser universal, como el insigne Wolowski dijo al cerrar las conferencias de 1867.

España por su parte dió el gran paso, podríamos decir el salto, hácia la unificacion con las naciones latinas, el dia que mandó tallar la peseta á 5 gramos de peso, igualándola al franco y á la lira, trasformacion entónces violenta, y que sin embargo no ha producido perturbacion sen-

sible, puesto que nadie ha acudido para saldar cuentas anteriores á las tablas de equivalencia que se publicaron, y puesto que el Banco mismo de España ha hecho la traduccion de toda su contabilidad desde el antiguo escudo á la moderna peseta-franco, á tanto por tanto sin abono de diferencia alguna, lo mismo que en mayor escala habia hecho el estado en su presupuesto, y por consiguiente en su cuenta de rentas y de gastos públicos, y lo mismo que en la colocacion de los nuevos billetes hipotecarios, acaba de hacer el gobierno, computándolos para el extranjero á razon de franco por peseta.

Está, pues, establecida por la ley y admitida por la práctica y sancionada por actos importantísimos la unidad monetaria peseta, que nos pone en consonancia con las naciones de la convencion latina. Por consiguiente, para poder aprovechar las ventajas que esta asimilacion puede proporcionarnos, lo que necesitamos es acuñar moneda de oro con sujecion al mismo sistema, y acuñarla de modo que inspire confianza. Si así lo hacemos, podremos verla admitida en el extranjero, bien por la simple voluntad de los negociantes, bien por acuerdos con los gobiernos, sin que ni á la una ni á la otra forma pueda servir de obstaculo el número de unidades á que cada pieza equivalga.

Como deduccion de todo lo expuesto en esta segunda parte de su informe, la Junta tiene el honor de proponer á V. E. las siguientes conclusiones:

1ª Que con arreglo á la cuarta de las enunciadas en la parte primera de este informe, el gobierno debe inmediatamente proceder á la acuñacion de la moneda de oro.

2ª Que esta acuñacion debe hacerse á la talla prescrita por el art. 2º del decreto-ley de 19 de Octubre de 1868, es decir, á razon de 3,444.44 pesetas por kilógramo de fino.

3ª Que la moneda que por lo pronto deberá acuñarse será la de 25 pesetas, establecida por el decreto de 21 de Marzo de 1871, hasta que se resuelva si han de acuñarse monedas de 50 pesetas.

4ª Que el gobierno recibirá las pastas de oro que se le presenten para la acuñacion por los particulares en la forma prescrita por el art. 7º del decreto-ley arriba citado; y que si los particulares no presentarán pastas por lo alto del precio del oro, el gobierno deberá adoptar medidas especiales para que no se detenga la acuñacion.

Tal es, excmo. sr., el dictámen que la Junta tiene el honor de someter á V. E. en cumplimiento de su honroso encargo; V. E. en su ilustracion superior, estimando debidamente el buen deseo de la Junta, resolverá, despues de haberla oido, lo mas acertado y lo mas conveniente á los grandes intereses, tanto del estado como de los particulares, que en esta grave cuestion se encuentran comprometidos.

C. 7.

MINISTERIO DE HACIENDA.

Exposicion.

SEÑOR: Hace ya mas de tres años que no se ha acuñado moneda de oro en España, y la fecha mas reciente inscrita en la fabricada es la de 1868. Estos dos hechos han coincidido con los de índole diametralmente contraria realizados en los demas países europeos, en los que, adoptándose el oro como patron único para el sistema monetario, limitándose la fabricacion de la plata, y hasta desmonetizándola en grandes

cantidades, y haciéndose prolijos estudios y tratados internacionales bajo el influjo de las graves preocupaciones producidas por la extraordinaria y creciente depreciacion de la plata en los mercados, se ha proclamado universalmente la conveniencia de preferir el oro para la acuñacion.

Los diferentes gobiernos que se han sucedido en la direccion de los negocios públicos intentaron varias veces salir de esta situacion excepcional; pero no consiguieron vencer las dificultades de un asunto que por muchas causas habia llegado á ser muy complicado y difícil.

Entre esas causas ocupaba quizás el principal lugar la manera con que habia sido ejecutado en parte, y dejado de realizar en otra muy importante, el nuevo sistema monetario establecido por el decreto de 19 de Octubre de 1868. Disminuidos entónces á un mismo tiempo los pesos de las monedas de oro y de plata, si la reforma se hubiera llevado á cabo en lo relativo á las primeras, quedando sin cumplir en lo que se referia á las segundas, se habria corregido en gran manera la divergencia entre las valores legales de los dos metales amonedados y los precios mercantiles de las pastas; pero habiendo sucedido lo contrario, la coexistencia de la plata acuñada del nuevo sistema con el oro del anterior produjo en nuestra circulacion monetaria un desequilibrio mucho mayor que el notado en los demas paises como consecuencia de la extraordinaria baratura de la plata.

Si no han desaparecido por completo, han disminuido ya mucho las dificultades con que ántes se tropezaba. Por efecto de la gran acuñacion de plata en los últimos años, las cantidades de moneda de este metal arregladas al sistema de Octubre de 1868 son ya el hecho preponderante en nuestra actual circulacion monetaria. La rápida desaparicion del oro correspondiente á los sistemas anteriores, que puede atribuirse á diversas causas, pero que de cualquier manera es un suceso indudable, hará ménos sensible y peligrosa la coexistencia de piezas circulantes de tallas diversas. La ley de presupuestos última, determinando que la fabricacion de la moneda de plata se haga exclusivamente por cuenta del estado, y suprimiendo así una de las condiciones esenciales de los sistemas de doble patron monetario, modifica ventajosamente el estado anterior de las cuestiones.

En el que tienen en la actualidad, pueden considerarse ya como resueltas las tres mas principales, en el sentido de que urje disponer la acuñacion de la moneda de oro por tanto tiempo suspendida; de que es preciso, tomados en cuenta todos los datos y todas las circunstancias, decidirse hoy en favor de la talla decretada en Octubre de 1868, y de que conviene limitar la fabricacion de la moneda de plata.

Así lo ha creido unánimemente la Junta consultiva de moneda. Su dictámen ofrece ademas la ventaja de estar arreglado estrictamente á la legislacion en vigor, porque, en medio de las vacilaciones y de las medidas contradictorias posteriores al decreto de 19 de Octubre de 1868, convertido en ley algunos meses despues de aquella fecha, no fué nunca derogado en lo relativo á la talla del oro, y respecto á las condiciones de la fabricacion de la plata lo ha sido en la forma debida por la ley de presupuestos de 21 de Julio último. Tampoco habia sido objeto de derogacion el decreto de 21 de Marzo de 1871, que prefirió la moneda de 25 pesetas á la de 20.

Fundado en estas razones, y de acuerdo con el consejo de ministros, el de hacienda tiene la honra de someter á la aprobacion de V. M. el adjunto proyecto de decreto.

Señor, á L. R. P. de V. M.,

JOSÉ GARCÍA BARZANALLANA.

Madrid 20 de Agosto de 1876.

C 8.

REAL DECRETO.

Atendiendo á las razones expuestas por el ministro de hacienda, de acuerdo con el consejo de ministros y de conformidad con el dictámen de la Junta consultiva de moneda, vengo en decretar lo siguiente:

ARTÍCULO 1° Se acuñarán monedas de oro de 25 pesetas de valor, con la ley de 900 milésimos y con el peso de 8.06451, determinado por el decreto de 21 de Marzo de 1871, en proporcion exacta con el que á otras monedas del mismo metal habia fijado el de 19 de Octubre de 1868.

ART. 2° El gobierno admitirá en la forma prescrita por el art. 7° del citado decreto de 19 de Octubre de 1868 las pastas de oro que los particulares le presenten para la acuñacion. Si no le presentaren en cantidad suficiente por efecto del alto precio del oro, el gobierno adoptará las medidas oportunas para que la acuñacion de moneda de este metal no vuelva á quedar suspendida.

ART. 3° El gobierno, cuando juzgue que hay suficiente cantidad de moneda de oro en circulacion, fijará la fecha desde la que no será obligatorio admitir en cada pago sino una suma de 150 pesetas en plata.

ART. 4° Para la acuñacion de la cantidad de moneda de plata que se juzgue necesaria, el gobierno admitirá en la casa de moneda todas las pastas de produccion nacional, devolviendo por cada kilógramo de fino, durante el actual año económico, 200 pesetas acuñadas. Si la plata de produccion nacional presentada para la acuñacion no bastare á cubrir la cantidad que estime necesaria el gobierno, podrá este admitir las extranjeras en la misma forma y en virtud de disposiciones particulares para cada caso.

ART. 5° Para evitar que con el nombre de nacionales se presenten platas extranjeras, se observarán las reglas siguientes:

1ª Se exigirá á todo productor español que lleve su plata á la casa de moneda una declaracion del sistema que sigue, del número y clase de aparatos que emplea, del grado de concentracion á que levanta el plomo, y del máximum mensual de plata que puede producir.

2ª La plata se presentará siempre en la casa de moneda acompañada de guias expedidas con las mismas formalidades que en la actualidad.

3ª La administracion se podrá asegurar de la verdad de los hechos haciendo uso de todos los demas medios de comprobacion que posee.

ART. 6° El ministerio de hacienda determinará las demas condiciones de la fabricacion de la moneda no contenidas en este decreto.

Dado en San Ildefonso á veinte de Agosto de mil ochocientos setenta y seis.

ALFONSO.

El Ministro de Hacienda,
JOSÉ GARCÍA BARZANALLANA.

D.

No. 1167.] LEGATION OF THE UNITED STATES,
Madrid, February 7, 1877.

SIR: I transmit herewith translation of a note of the minister of state and copy of my reply thereto, on the subject of information concerning the gold and silver coinage and monetary circulation of Spain, called for by your circular of September 18, 1876; also copy and trans-

lation of answers rendered by the minister of hacienda to specific interrogatories on that subject propounded by the United States monetary commission; also copies of sundry documents on the same subject, communicated to this legation by the minister of hacienda.

I have the honor, &c.,

C. CUSHING.

Hon. HAMILTON FISH,
Secretary of State.

P. S.—I inclose, in addition to the foregoing, copy of the decree of Amadeo I, of March 21, 1871, ordering the coinage of the new gold piece of 25 pesetas.

D 1.

MINISTERIO DE HACIENDA.

Exposicion.

SEÑOR: La reforma del sistema monetario acordada por decreto del gobierno provisional, fecha 19 de Octubre de 1868, exige una pronta resolucion del gobierno de S. M., toda vez que por diversas causas no ha recibido el impulso que reclaman sus circunstancias especiales y los beneficios que debe producir al pais.

Por vehemente que fuese el deseo del gobierno de trasformar nuestra heterogénea circulacion y de obtener las ventajas inherentes á la adhesion de España al convenio monetario celebrado en 23 de Diciembre de 1865 entre Francia, Italia, Bélgica y Suiza, no hubiera sido prudente apresurar la refundicion general de nuestras monedas de oro y plata sin cerciorarse de las modificaciones que pudiera proponer en dicho sistema la comision nombrada en 22 de Marzo del mismo año de 1868 por el gobierno francés, quien ejercia la iniciativa en todas las cuestiones relativas á dicha convencion para esclarecer los medios de perfeccionar el sistema y facilitar su adopcion á las ademas naciones conforme á los principios aceptados en las conferencias internacionales celebradas en París en 1867.

Publicado en 5 de Marzo de 1869 el dictámen de esta comision, creyó oportuno aquel gobierno ampliar los estudios hechos, encomendando una nueva informacion al consejo superior de comercio, agricultura é industria con objeto de obtener opinion definitiva acerca de las diversas propuestas formuladas por las comisiones que anteriormente habia nombrado.

Si bien los acontecimientos sobrevenidos en la nacion vecina al terminar la nueva informacion aplazaran por algun tiempo en los paises que forman la union monetaria de 1865 los resultados prácticos que son de esperar de tan prolijas investigaciones realizadas con el concurso de los hombres mas competentes en esta matèria, tanto de Francia como de las demas naciones, el gobierno, no obstante, cree haber adquirido datos suficientes para proceder sin recelo acerca de aquella parte de nuestra reforma todavía en suspenso, y que no es posible continúe en tal estado sin grave daño de los intereses públicos.

Las dos cuestiones principales que en mayor grado preocupaban al gobierno en este asunto, á saber: la de si convendria acuñar en España la moneda de 25 pesetas en vez de la de 20, y la clase de circulacion reservada en lo futuro á la moneda de plata de 5 pesetas, han sido

dilucidadas con tal extension que admiten ya resoluciones definitivas ó que surtirán efecto durante largo espacio de tiempo, contribuyendo las medidas que se dicten, no solo á asegurar á nuestro pais una circulacion metálica tan perfecta como es dable conseguir, sino que harán progresar, quizás notablemente, la idea de ajustar á un tipo comun las monedas de otras naciones comerciales de mayor importancia cuyo sistema monetario difiere del nuestro.

Ningun temor existe de que las monedas de 25 pesetas puedan confundirse con las de 20 siempre que aquellas se acuñen con el diámetro de 24 milímetros, y que su canto carezca de leyenda ó presente alguna otra diferencia fácilmente perceptible, y si fuese posible tambien en los espacios de ambas caras que hoy resultan lisos.

De esta manera desaparece la principal dificultad que se oponia á la adopcion de la primera de dichas monedas; y si bien quizás no llegue á ser acuñada en las naciones que poseen y están acostumbradas á la de 20 pesetas ó francos, porque la diferencia de un quinto entre el valor de una y otra realmente no basta á justificar su fabricacion simultánea, es indudable que aquellos paises al ménos admitirán propiciamente las que se fabriquen en el extranjero, porque sobre concordar con las demas establecidas, pueden ademas ser útiles en las transaciones con Inglaterra y los Estados-Unidos, que poseen monedas fundamentales ó multiplos que en muchos casos se computan al mismo valor de 25 pesetas ó francos.

Acordada la acuñacion de esta moneda, debe y puede proseguirse desembarazadamente nuestra reforma, hasta ahora cási impracticable, porque representando la moneda de 20 pesetas ó la de 25 las tres cuartas partes con corta diferencia de la nueva fabricacion, reducida á las monedas de 100, 50, 10 y 5 pesetas, mal podria marchar con órden, rapidez y economía.

Aun cuando hiciésemos abstraccion de la influencia que la moneda de 25 francos no puede ménos de ejercer respecto á la asimilacion de los sistemas monetarios de Inglaterra, los Estados-Unidos y otros paises, existen consideraciones especiales que justifican la preferencia que España debe dispensar á dicho tipo.

En primer lugar la moneda de 25 pesetas, nueva puede decirse para el extranjero, no lo será para España, en donde la mayor parte del numerario existente consiste en doblones de 100 rs. y de 10 escudos, y de consiguiente podremos conservar el tipo hasta ahora mas usual y preferido. En igualdad de valor nominal, aquella moneda permitirá reducir la superficie expuesta al desgaste, y por último proporcionará una disminucion de 20 por 100 en el número de monedas, simplificando los cambios y economizando pérdidas de tiempo y gastos de fabricacion.

No es dudosa, bajo el punto de vista de las mas fundadas teorías económicas, la conveniencia de suprimir la moneda fundamental de 5 pesetas de plata ó limitar su aplicacion á transaciones de menor cuantía; y debe esperarse, segun las opiniones manifestadas, que las naciones signatarias del convenio de 23 de Diciembre de 1865 acordarán al fin una resolucion en uno ú otro sentido, para cuya eventualidad se preparó el gobierno suspendiendo en 11 de Marzo del año próximo pasado la admision de pastas de plata en la casa de moneda de Madrid. Anulada por diversas resoluciones posteriores esta suspension á causa de las circunstancias, no parece indispensable de cretarla de nuevo, en atencion á que las nuevas condiciones á que ha de sujetarse la circulacion de la moneda de 5 francos en ningun caso modificaria de un modo inmediato su actual modo de ser; y por otra parte, niveladas las tarifas de compra de metales preciosos, tampoco hay que temer que la plata,

por las condiciones especiales de nuestros mercados, llegue á preponderar excesivamente en la circulacion. Si así no fuese, podrán tomarse á tiempo las medidas necesarias para no dificultar cualquiera modificacion que ulteriormente se juzgue conveniente.

En vista, pues, de cuanto queda expuesto, no precisa por ahora para llevar adelante una reforma, que consumada favorecerá grandemente los intereses del pais, mas alteracion en la ley orgánica del nuevo sistema monetario que adoptar la moneda de 25 pesetas; á cuyo efecto, y de acuerdo con el consejo de ministros, tengo la alta honra de someter á la aprobacion de V. M. el adjunto proyecto de decreto.

Madrid 21 de Marzo de 1871.

El Ministro de Hacienda,

SEGISMUNDO MORET Y PRENDERGAST.

DECRETO.

En vista de lo propuesto por el ministro de hacienda, de acuerdo con el consejo de ministros, vengo en decretar lo siguiente:

ARTÍCULO 1° Se acuñarán monedas de oro de 25 pesetas de valor en vez de las de 20 pesetas que expresa el artículo 2° del decreto de 19 de Octubre de 1868.

ART. 2° Las nuevas monedas pesarán en exacta proporcion con las demas del mismo metal 8.06.451 gramos, y serán de igual ley que aquellas.

ART. 3° El permiso de ley y el del peso individual y colectivo serán de 2 milésimas de mas ó de ménos.

ART. 4° No llevarán leyenda al canto, y el adorno de este, y si posible fuese la parte lisa de los troqueles, presentarán diferencias que permitan distinguir con facilidad estas monedas de las de 20 pesetas que se acuñan en otros paises.

ART. 5° El diámetro será de 24 milímetros, y los cuños ostentarán los mismos emblemas que las demas monedas de oro y las leyendas correspondientes.

ART. 6° Se dará cuenta oportunamente á las Córtes de las disposiciones contenidas en este decreto.

Dado en palacio á veintiuno de Marzo de mil ochocientos setenta y uno.

AMADEO.

El Ministro de Hacienda,
SEGISMUNDO MORET y PRENDERGAST.

E.

APPENDIX B, (No. 1167.)

Mr. Silvela to Mr. Cushing.

MINISTRY OF STATE,
The Palace, January 25, 1877. (Received January 28, 1877.)

EXCELLENCY: The minister of hacienda, to whom I communicated the contents of the note from your legation of October 7 last, in which were requested the proper answers to various inquiries concerning mints, which were desired for the inspection of the commission appointed in the United States to investigate and report upon the commercial and

monetary relations of gold and silver, has just sent to me a statement of the replies which can be given for the present, and the instructions, copies of decrees, and regulations which are best adapted to facilitate the work incumbent upon the aforesaid commission, and which documents I have the honor to place herewith in your excellency's hands.

The minister of hacienda further states to me that he has asked for other dates upon this matter from different administrative centers, which I will undertake to place in your excellency's hands when they come into my possession.

I improve this opportunity to reiterate to your excellency the assurances of my most distinguished consideration.

MANUEL SILVELA.

The MINISTER PLENIPOTENTIARY *of the United States of America.*

F.

APPENDIX C, (No. 1167.)

Mr. Cushing to Mr. Silvela.

LEGATION OF THE UNITED STATES,
Madrid, February 7, 1877.

EXCELLENCY: I have the honor to acknowledge the reception of the communication of your excellency under date of the 25th ultimo, transmitting answers to the interrogatories propounded by the United States monetary commission, through the Secretary of State of the United States, regarding the relations between gold and silver and the currency and monetary circulation in Spain, together with sundry documents on the subject presented by his excellency the minister of hacienda; and in behalf of my Government I beg leave to express sincere thanks for this attention as well to your excellency as to his excellency the minister of hacienda.

I avail myself of this occasion to reiterate to your excellency the assurance of my most distinguished consideration.

CALEB CUSHING.

His Excellency the MINISTER OF STATE.

G.

APPENDIX E, (No. 1167.)

Inclosure with Mr. Silvela's note of January 25, 1876, to Mr. Cushing.

[Translation.]

MINISTRY OF STATE—DIRECTION OF COMMERCIAL AND CONSULAR AFFAIRS.

Mints.—Answer to the interrogatories of the monetary commission of the United States.

INTERROGATORY NO. 1.

First and second questions. The only alteration which has occurred in the relative value of gold and silver during the last fifteen or twenty years has been insignificant, because in Spain there exists no market

for the precious metals, and the only standard of the values thereof is the price given in the general market of Europe, (London.)

Paragraph A. From the relative value of 1 to 15.476, established by the monetary law of June 26, 1864, a change has occurred to that of 1 to 15½, fixed by the new monetary system of October 19, 1868, the latter being, it may be said, similar to that of France and other nations which adhered to the convention of December 23, 1865. Nevertheless, the only alteration observed in this respect consists in a premium of about one per cent. excess which gold money has attained as compared with silver in changing bank-notes.

Paragraph B. As well gold as silver have been hitherto standards, and the coins of both metals have had unlimited circulation in every kind of transactions and payments. With respect to the regular sales of bullion, and to its relative value, nothing can be said, especially as, according to what has been already said, (first and second questions,) we have not had any bullion-market in Spain.

Paragraph C. There are neither means nor statistical returns, wherewith to fix the amount of coined gold and silver existing in Spain, nor much less in the form of bullion, bars, or ingots; but in 1869 the gold coinage in circulation was estimated at 2,600 millions of reales, (650 millions of pesetas,) and that of silver at 800 millions of reales, (200 millions of pesetas.) There have subsequently been considerable additions and exportations, causing modifications in the state of the circulation. The subsidiary silver coinage may be to-day estimated at 600 millions of reales, (150 millions of pesetas.) Its legal circulation is limited to 50 pesetas in any one payment.

Paragraph D. No precise return can be made, since the weighers and markers of gold and silver are municipal agents, and the results of their operations are not published.

Paragraph E. In the Peninsular no other paper-money is in circulation than the notes of the Bank of Spain; which, according to the last statement of its situation, dated the 30th of last November, amounted to 94,055,700 pesetas in Madrid, and 47,884,850 in its branch establishments, or, in all, 141,940,550 pesetas. These notes are admitted without limitation, as legal tender, with respect to the public cash-offices, but not among private parties. They are convertible into specie on presentation, suffering at present in the money-market a discount of 2 per cent. as compared with specie in the different transactions and retail-purchases, but without ceasing to circulate in the provinces, those of each respective branch bank not being subject to any discount.

Third question. The alteration or increase of per cent. which has occurred in the value of gold money as compared with silver, is explained by the former money being more adequate and suitable for the exportation to which the fall in foreign exchange is giving rise.

Fourth question. The causes above indicated must be permanent so long as gold finds in the foreign markets an easier and more advantageous employment; but with respect to those which may affect, in the future, the value of the two precious metals, Spain, by reason of her special circumstances, is devoid of influence.

Fifth question. The state of political disturbance which until recently has existed in Spain renders it impracticable to judge of the effects which the depreciation of silver has brought about in the general business of the country, or in its monetary standards. This state of things, notwithstanding the increasing abundance of that metal and its visible depreciation, has had a very powerful influence in causing the government of His Majesty to find itself constrained to limit this class of coin-

age since January, 1875, and to produce at present no other money than that of gold.

Sixth question. (See the decree of August 20, 1876, which is herewith transmitted.)

It is proper, moreover, to indicate that the coinage of gold and silver is free of taxation in Spain since 1864. The coinage of gold is unlimited; that of silver is for the present restricted to the metal produced by the mining industry of the country, which is coined in the establishments of the state, delivering to the person presenting the same 200 pesetas of coined money for each kilogram of five bullion which the latter may present, the difference between the said bullion and the coin remaining in favor of the state. As has been above stated, the government of His Majesty alone executes the coinage by means of its employés.

Seventh question. The importation of foreign coins is free, but they have no legal course, with exception of the French coinage, which passes at the rate of 19 reales vellon (4.75 pesetas) for each silver piece of five francs, notwithstanding which this circulating medium is becoming more and more limited every day. The national coinage, with the date of the current year, is the only kind struck.

There is no information of the introduction of counterfeit subsidiary coins; and the fraudulent acts of this kind, which are frequently committed in Spain, are rigorously pursued and punished, in conformity in such case with the accompanying instruction concerning counterfeit money.

(A statement will be furnished of the exportation and importation of coin and bullion.)

Eighth question. The conditions under which the precious metals are coined, in addition to those which are laid down in the decree of August 20, 1876, can be seen in the instruction of December 16, 1858, the rules whereof will amply suffice to explain all that portion which refers to such service. The person presenting bullion may coin what he likes, but with the previous authorization of the superior authority. The lots which he may propose to coin can never be less than ten thousand reales, (2,500 pesetas.) Coinage pays no other import than the difference between the kilogram of fine silver bullion and the two hundred pesetas which are paid therefor to the owner; but as the person presenting national bullion must necessarily be a producer or an owner of mines, he has to pay the tax imposed for that industry, or subsidy, which may be designated for him in advance.

Ninth question. Interpreting this in its true sense, and in order to facilitate the work which is to respond as well to the interrogatory which occupies us as to that designated by the No. 2, the following documents are transmitted:

G 1. The above-cited instruction of December 16, 1858.

G 2. A printed copy of the memoir on the monetary system of 1864.

G 3. A coinage regulation of September 4, 1865.

G 4. A printed copy of the reports of the monetary commission of October 27, 1868.

G 5. A copy of the decree-law of October 19, 1868.

G 6. And another of that of December 14, 1869.

INTERROGATORY No. 2.

First question. (See the monetary law of 1864, and the decrees of October 19, 1868, and August 20, 1876.) Further details, which have been asked for, will be furnished.

Second and third questions. (Various details have been asked for from different dependencies, which, when furnished, will be transmitted.)

Fourth question. The medium period of time which may be calculated for the re-imbursement or repayment of the bullion presented for coinage is three weeks.

Fifth question. (See the above-cited decree of August 20, 1876.)

Sixth question. (All which is set forth in the reply to the 9th question of interrogatory No. 1 is repeated.)

Madrid, January 7, 1877.

The subsecretary,

FERNANDO COS GAYON.

A true copy.

(Rubricated by the minister of state.)

G 5.

The Figuerola law of October 19, 1868.

MINISTERIO DE HACIENDA.

Decreto.

El triumfo de la revolucion iniciada en el glorioso abramiento de Cadiz hace indispensable una medida de grandísima importancia: la reacuñacion de la moneda. En la nueva era que las reformas políticas y económicas, imposible durante la existencia del régimen caido, abren hoy para nuestro pais, conviene olvidar lo pasado, rompiendo todos los lazos que á él nos unian y haciendo desaparecer del comercio y del trato general de las gentes, aquello objecto que pueden con frecuencia traerlo á la memoria. La moneda de cada época ha servido siempre para marcar los diferentes períodos de la civilizacion de un pueblo, presentando en sus formas y lemas el principio fundamental de la constitution y modo de ser de la soberania, y no habiendo hoy en España mas poder que la nacion, ni otro orígen de autoridad que la voluntad nacional, la moneda solo debe ofrecer á la vista la figura de la patria y el esendo de las armas de España, que simbolizan nuestra gloriosa historia hasta el momento de constituirse la unidad política bajo los reyes católicos; borrando para siempre de ese escudo las lises borbónicas y cualquier otro signo ó emblema de carácter patrimonial ó de persona determinada.

Pero al reacuñar la moneda, puesto que han de hacerse los gustos necesarios para este objecto, parece ocasion oportuna de realizar la reforma del sistéma monetario, ajustando éste á las bases adoptadas en el convenio internacional de 23 de Diciembre de 1865 por Francia, Bélgica, Italia y Suiza. Las importantes relaciones comerciales que tenemos con esos pueblos, y que han de aumentar considerablemente á medida que vayan haciéndose en nuestro sistema rentistico las profundas y radicales alteraciones reclamadas por la ciencia y la justicia; y la conveniencia de estrechar, hoy que rompemos con nuestro pasado, los lazos que nos unen á las demas naciones de Europa, aconsejan la reforma indicada, á la cual solo podria oponerse la consideracion de la dificultad y del coste de la trasformacion monetaria, que como se ha dicho, es hoy de necesidad absolutamente imprescindible.

El estudio de esta trasformacion está hecho en nuestro pais, y preparado el proyecto correspondiente, despues de minuciosas y detenidas

investigaciones, por la Junta consultiva de moneda, que lo presentó en Febrero último al gobierno anterior. Este proyecto, que mereció tambien la aprobacion del consejo de estado puede utilizarse con ligerísimas modificaciones consistentes en el cambio de los signos y leyendas, en la adision del peso, y la ley, que deberán expresárse en todas las monedas, y en alguna otra alteracion conveniente para ajustar las clases y el valor de aquellas á lo acordado en el convenio de 23 de Diciembre de 1865.

España no entra, sin embargo, á formar desde luego parte de la union monetaria establecida por las cuatros naciones indicadas, ni se somete á las obligaciones del referido convenio; conservando su libertad de accion para todo lo que no se determina de un modo expreso en el presente decreto, hasta que se halle constituido definitivamente el pais y reanudadas las relaciones diplomáticas con los demas pueblos.

No se ocultan al gobierno provisional los inconvenientes inseparables de esta trasformacion, como de todas las operaciones análogas ni desconoce el sacrificio que para realizarla deberá imponérse el pais. Pero, sobre exijirla una razon de dignidad y de decoro, sus ventajas económicas en un próximo porvenir son demasiado considerables, para que pueda dudárse de la utilidad de la reforma. Todo lo que facilita el comercio y las relaciones entre los pueblos, constituye un inmenso beneficio por que fecunda los gérmenes de riquera, levanta la condicion del ciudadano, y afirma la civilizacion y la libertad. Adoptando los tipos monetarios del convenio internacional, España abre los brazos á sus hermanas de Europa, y dá una nueva y clara muestra de la resolucion inquebrantable con que quiere unirse á ellas, para entrar en el congreso de las naciones libres, de que portanto tiempo la han tenido alejada, contrariando su natural inclinacion, los desaciertos políticos y el empirismo rutinario de sus gobiernos.

Por todas estas consideraciones, y en uso de las facultades que me competen, como individuo del gobierno provisional y ministro de hacienda, vengo en decretar lo siguiente:

ARTÍCULO PRIMERO. En todos los dominios españoles la unidad monetaria será la peseta, moneda efectiva equivalente á 100 céntimos.

ARTÍCULO SEGUNDO. Se acuñarán monedas de oro de 100, 50, 20, 10, y 5 pesetas, cuyo peso, ley, permisos y diámetros serán los siguientes:

Clase de moneda.	Peso.		Ley.		Diámetro.
	Exacto.	Permiso en feble ó fuerte.	Exacta.	Permiso en feble ó fuerte.	
	Grámos.	*Milésimos.*	*Milésimos.*	*Milésimos.*	*Milímetros.*
De 100 pesetas	32.25806	1			35
De 50 idem	16.12903	1			28
De 20 idem	6.45161	2	900	2	21
De 10 idem	3.22580	2			19
De 5 idem	1.61290	3			17

Estas monedas serán admitidas, así en las cajas públicas, como entre particulares, sin limitacion alguna. Aquellas cuya falta de peso exceda en ½ por 100 al permiso de feble, ó cuya estampa en parte ó del todo haya desaparecido, carecerán de curso legal, y deberán ser refundidas segun determinen los reglamentos vigentes.

ARTÍCULO TERCERO. Asimismo se acuñaran monedas de plata de 5 pesetas, cuyo peso, ley, permisos y diámetros serán los siguientes:

Peso.		Ley.		Diámetro.
Exacto.	Permiso en feble ó fuerte.	Exacta.	Permiso en feblo ó fuerte.	
Grámos.	*Milésimos.*	*Milésimos.*	*Milésimos.*	*Milímetros.*
25	3	900	2	37

La recepcion y circulacion de estas monedas queda sujeta á las mismas reglas establecidas en el artículo segundo para las de oro, en el concepto de que el desgaste no podrá exceder de 1 por 100.

ARTÍCULO CUARTO. Tambien se acuñarán monedas de dos pesetas, una peseta, 50 céntimos, y 20 céntimos, cuyo peso, ley, permisos y diámetros serán:

Clases de moneda.	Peso.		Ley.		Diámetro.
	Exacto.	Permiso en feble ó fuerte.	Exacta.	Permiso en fuerte ó feble.	
Cs.	*Grámos.*	*Milésimos.*	*Milésimos.*	*Milésimos.*	*Milímetros.*
2 pesetas.....00	10	5	835	3	27
1 idem.....00	5	5			23
0 idem.....50	2.50	7			18
0 idem.....20	1.00	10			16

Estas monedas carecerán de curso legal y deberán ser refundidas, con arreglo á los reglamentos vigentes, cuando la estampa haya en todo ó en parte desaparecido, ó el desgaste exceda en 5 por 100 al permiso de feble, y no se entregarán por las cajas públicas, ni serán admisibles entre particulares en cantidad que exceda de 50 pesetas, cualquiera que sea la cuantía del pago. El estado, sin embargo, las recibirá de los contribuyentes sin limitacion alguna.

ARTÍCULO QUINTO. Se acuñarán monedas de bronce de 10, 5, 2 y un céntimos, con el peso, permisos y diámetros siguientes:

Clase de moneda.	Peso.		Ley.		Diámetro.
	Exacto.	Permiso en feble ó fuerte.	Exacta.	Permiso en feble ó fuerte.	
	Grámos.	*Milésimos.*	*Milésimos.*	*Milésimos.*	*Milímetros.*
10 céntimos.....	10	10	950 cobre.	10	30
5 céntimos.....	5	10			25
2 céntimos.....	2	15	40 estaño. 10 zinc.	5	20
1 céntimo.....	1	15			15

Carecerán de curso legal estas monedas y serán refundidas á espensas del estado, cuando el anverso ó reverso haya en todo ó en parte desaparecido por los efectos naturales del desgaste. En ningun caso las monedas de bronce podrán entregárse por las cajas públicas, ni tendrán

curso legal entre particulares, en cantidad que exceda de cinco pesetas, cualquiera que sea la cuantía del pago, pero las cajas públicas las recibirán sin limitacion alguna.

ARTÍCULO SESTO. Todas las monedas cuyo tamaño lo permito, ostentarán una figura que represente á España, con las armas y atributos propios de la soberania nacional, y elevarán expresados su valor, peso, ley y año de la fabricacion. Asimismo aparecerán en ellas las iniciales de los funcionarios responsables de la exactitud del peso y ley.

Las condiciones de la estampa, peculiares á cada moneda y en armonía con lo expuesto serán objeto de resoluciones especiales del ministro de hacienda, debiendo cuidar de que, conservando la debida armonía, se diferencien entre se en el carácter y disposicion de las leyendas ó en otros detalles accesorios para evitar que se confundan monedas de distinto valor.

ARTÍCULO SÉPTIMO. Se acuñarán en monedas de oro de 100, 50, 20, 10 y 5 pesetas, y de plata de 5 pesetas; las partas que presenten de su cuenta los particulares, sin exigirles descuento ni retenida alguna por gastos de fabricacion, siempre que aquellas reunan la ductilidad y demas condiciones necesarias, y que puedan aleárse á la ley monetaria sin necesidad de incorporar oro ni plata fina. Los gastos de afinacion y apartado en las partas cuya amonedacion exija tales manipulaciones, lo satisfarán los particulares con arreglo á un tipo uniforme y en armonía con el coste de dichas operaciones, si poseyendo los medios necesarios las casas de moneda del reino el gobierno conceptuare conveniente autorisarlo.

ARTÍCULO OCTAVO. Las monedas de plata á la ley de 835 milésimos y las de bronce, se acuñarán exclusivamente por cuenta y en beneficio del estado.

ARTÍCULO NOVENO. El ministro de hacienda fijará en los presupuestos annales la proporcion en que deban acuñarse las diferentes clases de moneda, con arreglo á las necesidades de la circulacion; en la inteligencia de que la total suma de moneda circulante de plata de 835 milésimos no ha de exceder de 6 pesetas por habitante, ni de 2 pesetas la cantidad de monedas de bronce.

ARTÍCULO DIEZ. Á contar desde 31 de Diciembre de 1870, será obligatorio, así en las cajas públicas como entre particulares, el uso del sistema monetario creado por este decreto.

Las penas en que incurrirán los infractores consistirán en multas pecuniarias ó privacion de sus cárgos si fueren funcionarios públicos, segun se disponga en los respectivos reglamentos.

ARTÍCULO ONCE. Los contratos, así públicos como privados, anteriores al presente decreto, en los que expresa y terminantemente se haya estipulado que los pagos han de hacerse con moneda circulante en la actualidad, se liquidarán con el abono correspondiente, siempre que el pago se realise en monedas del nuevo cuño.

El ministro de hacienda publicará los oportunas tablas para la reduccion de la antigua á la nueva moneda, á fin de facilitar esta clase de operaciones.

ARTÍCULO DOCE. El gobierno queda facultado para autorisar la admiscion en las cajas públicas y la circulacion legal en todos los dominios españoles, de las monedas de oro y plata acuñadas en paises extrangeros, siempre y cuando tengan peso igual ó exactamente proporcional, la misma ley y condiciones, y que sean admitidos reciprocamente las nacionales en aquellos paises. La circulacion reciproca de las monedas nacionales y extrangeras será objeto de tratados especiales con las potencias respectivas.

DISPOSICION TRANSITORIA.

Á medida que se retiren de la circulacion las monedas circulantes serán refundidas y se procederá á la acuñacion de las similares creadas por este decreto, debiendo incluirse en los presupuestos generales los créditos indispensables para realizar dicha refundicion con toda la brevedad compatible con las circunstancias del tesoro publico.

Madrid 19 de Octubre de 1868.

El Ministro de Hacienda,
LAUREANO FIGUEROLA.

Con objeto de llevar á debido efecto y á la mayor brevedad lo dispuesto en decreto separado de esta fecha, acerca de la adopcion del nuevo sistema monetario, y á fin de proceder en tan interesante servicio con el acierto que su importancia exige, en uso de las facultades que me competen como individuo del gobierno provisional y ministro de hacienda, vengo en decretar lo siguiente :

ARTÍCULO PRIMERO. La Junta consultiva de moneda redactará con urgencia el oportuno programa para adquirir en concurso público, en el ménos tiempo posible y con el mayor grado de perfeccion, los troqueles para la acuñacion de las nuevas monedas.

ARTÍCULO SEGUNDO. La academia de la historia informará, con igual brevedad, acerca del escudo de armas y atributos de carácter nacional que deban figurar en los nuevos cuños.

ARTÍCULO TERCERO. La Junta consultiva de moneda formulará el oportuno presupuesto para la refundicion general de la moneda circulante, y los reglamentos y demas medidas que, con la aprobacion del ministro de hacienda, deban adoptárse para realizar esta reforma del modo mas conveniente á los intereses públicos.

Madrid, 19 de Octubre de 1868.

El Ministro de Hacienda,
LAUREANO FIGUEROLA.

Es copia.

El Subsecretario,
FERNANDO COS-GAYON.

SWEDEN AND NORWAY.

A.—Mr. Holmbœ to General Andrews, replying for Norway to interrogatories B of commission.

B.—General Andrews to Mr. Fish, replying for Sweden to interrogatories B of commission.

C.—General Andrews to Mr. Fish, inclosing reply of C. F. Andresen to interrogatories C of commission.

D.—Reply for Norway of C. F. Andresen to interrogatories C of commission.

D 1.—Production and coinage of silver and gold in Norway.

D 2.—Exports and imports of precious metals.

D 3.—Remarks on D 1.

D 4.—Remarks on D 2.

E.—General Andrews to Mr. Fish, inclosing reply of Mr. Brusewitz to interrogatories C of commission.

F.—Reply for Sweden of E. Brusewitz to interrogatories C of commission.

F 1.—Coinage of gold and silver in Sweden, 1853 to 1876.
F 2.—Coinage law of Sweden, (omitted.)
F 3.—Scandinavian monetary convention, (omitted.)
F 4.—Supplementary treaty, (omitted.)

A.

[Inclosure 1 in No. 361.]

Mr. Holmboe to Mr. Andrews.

CHRISTIANIA, *October* 20, 1876.

DEAR SIR: I have had the honor to receive your letter of the 9th instant, and will endeavor in the following lines, so far as the materials at my disposal enable me, to supply the information required by the United States Monetary Commission in the various questions concerning the Norwegian system of coins and money.

1 and 2. The basis of the Norwegian monetary system had always been exclusively silver until the gold standard was adopted in 1873, and the question of the relative value of the two metals has therefore been of less practical interest for our country than for those countries in which the double standard existed. No important traffic in the precious metals has taken place in this country, and we are still without any quotations from the home market which could be made available for answering the questions with special reference to Norway. I may, however, add the remark that in the transition to the gold standard in 1873, in the transcription of obligations contracted in the earlier money, the basis of conversion adopted was the proportion of silver value to gold value as 1: 15.08.

2. (A.) Cannot be answered.

(B.) The basis of the monetary system of the realm is, as above stated, according to section 1 of the law on money, of April 17, 1875, of which a copy is sent herewith,* exclusively gold, which is thus the only metal in which obligations of the largest sums can be contracted.

The last part of the question does not require more special notice.

(C.) This question cannot be answered with complete accuracy.

I give here the data available.

At the end of the month of August the deposit of gold in the Bank of Norway, coined and in bars, amounted to 4,400,100 sp.†; but it is not possible to state the amount of gold in private hands. The amount of silver coined and in bars, which at present exists in the country, may be estimated at about 1,500,000 sp., of which about 5,700 sp. in bars, and the rest, 1,443,000 sp., in coin. Inasmuch as in the present question "subsidiary" coin means what we call "change," I must explain that the whole of the last-named amount is exclusively such coin. Of this sort of coin no one is obliged to accept in one payment more than 20 crowns, equal 5 sp., in one and two crown pieces, and 5 crowns, equal 1 sp. 30 sk., in smaller silver coin.

(D.) Cannot be answered.

(E.) The Bank of Norway is alone authorized to issue notes payable to bearer representing money, not bearing interest. The amount of bank-notes in circulation, which is necessarily variable but has in the

* Not yet received at the legation. † "Specie dollars," one of which equals $1.07.

latter years ranged between nine and twelve millions of sp., was, at the end of August this year, 10,183,200 sp. Bank-notes are legal tender equal to ready money in all sorts of payments, public and private, which are not expressly stipulated in ready coin, but only so long as the bank redeems its notes in gold for their full value. Otherwise bank-notes cease to be legal tender in payment to any other than the bank itself.

(F.) In the years 1805–1875 inclusive, (for the years 1800–1804 the records are wanting,) the whole production of silver in this country amounted to a total value of about 9,523,000 specie, or on an average about 136,000 specie annually.

3–5. There is no opportunity to answer these questions with special reference to Norway, as will appear from what has been stated under the head of No. 1. I will only remark that the continued decline in the price of silver in the markets of the world, in connection with the German realm's transition to gold standard, caused Norway in 1873, simultaneously with the two other Scandinavian countries, to adopt gold exclusively as the basis of the monetary system of the realm.

6. The state is alone authorized to execute coinage. Silver, which, as above mentioned, is coined only for change, is coined exclusively on account of the state; but every one is entitled to have gold coined in the state mint on paying a seigniorage of ¼ per cent. for 20-crown pieces, and ⅛ per cent. for 10-crown pieces on the amount coined.

The other questions under this head are answered in the negative.

7. According to the official statistics the import and export of silver and gold in bars and coins into and from Norway in the last decennium have been as follows:

Year.	Import.	Export.	Year.	Import.	Export.
	Specie.	*Specie.*		*Specie.*	*Specie.*
1866	157, 500	100, 600	1871	1, 250, 000	200, 000
1867	336, 000	45, 160	1872	800, 000	100, 000
1868	300, 000	800, 000	1873	3, 850, 000	3, 750, 000
1869	600, 000	600, 000	1874	810, 000	7, 000
1870	350, 000	150, 000	1875	29, 400	701, 900

Here I must remark that the returns from the customs, on which the above figures are based, have certainly been incompletely drawn up, and that it is not safe to take it for granted that these figures express even approximately the right state of the case. This remark will, however, apply with less force to the years 1868–1873, for which years the customs returns have been corrected by means of the Danish and Hamburg import statements; while on the other hand no such control has been applied to the returns for the years 1866, 1867, 1874, and 1875, in regard to which years it appears, from a comparison of the official returns of imports and exports with the statements of the metallic deposits in the Bank of Norway at the end of the years 1865–1867 and 1873–1875, that the official returns have not been very accurate. Neither can the import and export of silver and gold severally be given with complete accuracy. If, however, we review the statements of the bank's metallic deposits for the period in question, we shall come to the conclusion that in years 1867–1871 the greatly preponderating part of the import as well as of the export has been silver; that of the import in 1872 about 530,000 specie was gold, and the rest of the import, as also the whole export, silver; in 1873, as a consequence of the decision taken in that year to adopt the gold standard, it must be presumed that the most important part of the import was gold, and of the export

silver; and in 1874 the case has probably been the same; in 1875 the chief part of the import has no doubt likewise been gold, while the export has been partly silver and partly gold, and of the former, according to the customs statement, to the amount of about 480,000 specie.

8. The mining traffic in precious metals, as well as in all other metals and ores, is, according to the Norwegian law, free for all the subjects of the state, only with the exception that the silver-works of Kongsberg, so long as they remain the property of the state, have the monopoly of the working of the auriferous and argentiferous lodes in the near environs of the works; the greater part of this environing district is, however, sold to private persons on certain conditions, and against a yearly payment to the state. According to the Norwegian law it is free for every one to search for metal-indications on another man's ground; but forasmuch as it may be intended to dig or mine, with that view permission in the shape of a costeening note must first be obtained from the proper authority. To obtain exclusive right to the metal-indication discovered, the finder must next get a letter of "muthing" from the mining-master of the district, after which he is entitled to have a space measured out to him for the working of the indication. In this measured space he is alone entitled to execute mining-work. The space measured out can be, according to the various nature of the ground and of the layers, either a narrow strip in the direction of the strike, with a length of up to 150 fathoms and a breadth of 3½ fathoms on each side of the layer, measured at right angles from its lateral boundaries, or a rectangle of up to 2,500 square fathoms.

The other questions under this head are answered in the negative.

I remain, dear sir, yours, obediently,

J. HOLMBOE.

General C. C. ANDREWS,
Minister of the United States, Stockholm.

B.

No. 360.] LEGATION OF THE UNITED STATES,
Stockholm, October 21, 1876.

SIR: In reply to your circular of the 18th ultimo requesting answers to certain interrogatories thereto appended, for the Monetary Commission of Congress, I have the honor to state that I received said circular and interrogatories on the 8th instant, and on the following day called in person on the Swedish minister of finance, Mr. Forsell, who is well acquainted with the matters inquired about, and submitted to him a copy of the interrogatories; at the same time explaining to him that the commission was required to report to Congress by the 15th of January next. Although attending at the time an informal meeting of the cabinet, Mr. Forsell rapidly read over the interrogatories and said it would be easy to answer all of them that were susceptible of being answered, as his department had but a few months previously furnished answers covering about the same ground for a parliamentary committee of England. He kindly undertook to have answers furnished me in the course of a few days; and I had the satisfaction of receiving them yesterday afternoon, neatly and concisely drawn up in the Swedish language over the signature of his assistant secretary, Mr. Carlquist. I made a translation of the answers last evening and beg to submit them as follows:

1. Answer to first interrogatory. The relative value of gold and silver

in Sweden has been, generally, the same as at London; the report, therefore, of such value in England is available as to Sweden.

2. (A.) Answer to No. 1 referred to.

(B.) Silver was formerly the standard of value in Sweden; but by the law of May 30, 1873, the gold standard was adopted.

(C.) On the 30th June, 1876, there was in the Bank of Sweden, silver, 52,075 kilograms; gold 3,178 kilograms; in private banks, gold, 3,221 kilograms; total gold, 6,399 kilograms. The stock of gold and silver coin and bullion in the country is principally in the banks, because bank-notes are for the most part used as a circulating medium. It is impossible even approximately to state how much gold and silver in coin and bullion there is out of the banks. The only way of forming an estimate of such quantity is by a comparison between the quantity of gold and silver coin minted since the new coinage law took effect and the quantity which is in the banks. The difference would comprise that which is employed in business; wherewith should be observed, however, that as Denmark and Norway have the same system of coinage as Sweden—according to the treaty of 27th May, 1873, and the 16th October, 1875—it is possible on the one hand that a part of the coin minted in Sweden can have gone to those countries, while on the other hand some of the coin from those countries has come into and is circulating in Sweden. So, also, it is possible that gold and silver coin to a not inconsiderable amount may have been exported to other countries. Of gold coin, as fixed by the law of 23d May, 1873, there had been minted up to the middle of this year, 20,733,000 crowns. * In the Bank of Sweden and in private banks there are 10,152,000 crowns. Difference, whereof by far the larger part is without doubt, exported and out of the country, 10,581,000 crowns, corresponding to kilograms 4,266. Of silver there had been coined 8,954,000 crowns, of which there is in the Bank of Sweden 3,657,000 crowns, corresponding to kilograms 31,782. If these amounts be added the result will show that at the middle of this year there was in Sweden, in form of coin or bullion, gold, 6,399 kilograms + about 600 = 7,000 kilograms. Silver, 52,075 kilograms + about 31,782 = 83,857 kilograms. All of the above-mentioned coin is subsidiary. In payment to the state such subsidiary coin is a legal tender to an unlimited amount; but in payments to a private person to an amount not exceeding twenty crowns in any one transaction.

(D.) It is not possible to give any information as to the quantity of gold and silver in the country in the form of plate, jewelry, or other articles susceptible of being converted into coin. [I would estimate the value of such gold and silver, without regard to cost or manufacture, at one hundred millions of crowns.]

(E.) There is no other representative of coin in Sweden than bank-notes. These are issued by the Bank of Sweden and by private banks. The amount of notes of the Bank of Sweden 30th June, 1876, was 32,812,067 crowns; of private banks, 61,208,759 crowns; in all 94,020,826 crowns. The notes of the Bank of Sweden are legal tenders to an unlimited amount and in all kinds of payments, whether to the state or between private persons. The notes of private banks are not legal tender. All bank-notes are convertible into coin, and to an unlimited amount.

(F.) The precious metals are obtained in the mines of Sweden only to a very inconsiderable amount and only as side products, except at the silver mines of Sala. (The product of gold has been about 6 kilograms a year, and of silver 1,000 kilograms.)

* A Swedish crown ("kroner") is equal to $0.26.80.

3 and 4. Answers to No. 1 referred to.

5. As the adoption of the gold standard occurred immediately before the rapid and remarkable change in the relative value of the precious metals, and as the country has continuously enjoyed a regular and steady money system, it may be said that these changes have had no other influence upon the commerce, finance, &c., of the country than such as concerns commerce with foreign countries—such as is felt in exchange.

6. There is only one mint—that of the state. No private parties can coin. The mint is obliged to coin gold to an unlimited amount for every one who delivers to it the gold. A charge must be paid of one quarter of one per cent. for 20-crown pieces, and of one-third of one per cent. for 10-crown pieces. Silver can be coined only for the state, because all silver coin is subsidiary. No numerical limit is prescribed for silver coinage. English sovereigns are sometimes imported in course of commercial payments, but they are not used as a circulating medium. In consequence of the mint-convention with Denmark and Norway, gold and silver coins of those countries circulate with the same validity as those of Sweden. Neither gold nor silver coin is made for or exported to foreign countries, otherwise than as occurs in ordinary commercial business. No imitation or surreptitious introduction of coin has been observed.

7. The annual import and export of coin and bullion have been as shown in the following table:

Year.	Gold.		Silver.	
	Import.	Export.	Import.	Export.
	Kilograms.		Kilograms.	
1866	140	32	6,304	3,672
1867	96	.....	5,300	.....
1868	495	.....	8,706	7,823
1869	820	.....	14,655	16,940
1870	98	.....	9,426	6,297
1871	704	.....	27,979	13,240
1872	2,380	.....	28,534	595
1873	3,338	.....	20,224	19,589
1874	3,207	87	2,740	39,975
1875	2,964	1,066	7,696	917

8. The whole of this industry (mining of the precious metals) is altogether too inconsiderable to merit remark. Such are the answers furnished by the department of finance. I might here refer, as having some slight bearing on this subject, to the third section of my dispatch numbered 234, of August 5, 1874, on the new private banking law of Sweden; also to correspondence on the Swedish coinage, as printed in Ex. Doc. No. 16, Senate, second session Forty-second Congress. The interrogatories to which answers were desired from the officer in charge of the mint of Sweden were submitted to him on the 9th instant. The answers will be promptly forwarded as soon as they are received. I suppose, of course, the commission has been or will be supplied with the recently printed and very full report of the committee of the British House of Commons, covering a part, at least, of these topics.

I have the honor to be, sir, very respectfully, your obedient servant,

C. C. ANDREWS.

Hon. HAMILTON FISH,
Secretary of State, Washington.

C.

No. 362.] LEGATION OF THE UNITED STATES,
Stockholm, October 23, 1876.

SIR: With reference to the interrogatories to which answers were desired from the chief officer of the mint of Norway for the use of the Monetary Commission, I have the honor to state that on the 9th instant I addressed a note to Mr. C. F. Andresen, director of the state's silver-works at Kongsberg, inclosing a printed copy of said interrogatories, and soliciting from him the information therein called for. I have to-day had the satisfaction of receiving his answers, in English, under date of the 21st instant, accompanied by printed documentary information, which I beg herewith to inclose.

I am, sir, very respectfully, your obedient servant,

C. C. ANDREWS.

Hon. HAMILTON FISH,
Secretary of State, Washington.

D.

KONGSBERG, *October* 21, 1876.

DEAR SIR: I have the honor to deliver, as far as I am able to do, the informations in respect to Norway, which are required in your favor of October 9, for the use of the United States Monetary Commission.

Referring to the printed interrogatories forwarded to me I accordingly inclose—

1. A copy of the mining law of July 14, 1842, with supplements; a copy of the coinage law of April 17, 1875, and of the regulations for the coinage of gold bullion; a copy of the Scandinavian monetary convention of May 27, 1873, and October 16, 1875.

2. Statements exhibiting production, coinage, and movement of gold and silver for some years.

I may further remark:

3. For facilitating the workings in the Kongsberg silver mines, which at present are 425–575 meters deep, a new adit-level at the depth of 335 meters is performed. The mining has been considerably facilitated by the use of dynamite; some new machinery has been established in the mines and in the stamping-works.

By means of increasing somewhat the production, the depreciation of silver probably shall be counterbalanced as for the net revenue.

4. When gold coinage takes place, commonly about 5,000 pieces of gold coins are coined daily.

5. It is contempleted to agree with the other Scandinavian mints in respect of having the same rule for the degree of minuteness to which the fineness of gold ingots, delivered for coinage, shall be reported by the mint-assayer, as the mint-charge in some degree depends upon it. It is proposed to adopt the rule, now current in Germany, to report the fineness to the minuteness of two-tenths of a millième.

I have the honor, dear sir, to sign with great respect, yours, truly,

C. F. ANDRESEN.

Mr. C. C. ANDREWS,
Minister Resident, Legation of the United States, Stockholm.

D 1.

TABLE I.—*Production and coinage of silver and gold in Norway.*

For the years—	Production of silver	Costs.	Net revenue.	Silver coined.	Silver recoined.	Silver remainder for manufacturing and for export.	Gold coined.
	Kilos.	*Kroner.*	*Kroner.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
1844 to 1869	131, 380	9, 130, 730	11, 549, 356	74, 340	.....	57, 040	.....
1870	3, 310	385, 500	171, 240	340	285	3, 255	.....
1871	3, 465	397, 112	201, 504	850	.....	2, 615	.....
1872	3, 750	385, 636	184, 224	610	260	3, 400	.....
1873	3, 520	420, 324	124, 988	1, 630	100	1, 990	.....
1874	3, 420	494, 785	36, 144	2, 400	190	} 150	1, 690
1875	4, 050	497, 652	120, 464	6, 000	890		847
1876	*4, 200	500, 000	125, 000	7, 000	3, 800	100	880

*About.

The figures for the current year, 1876, of course are only approximative.

D 2.

TABLE II.—*Exports and imports of precious metals in bars and coins.*

	Exports.	Imports.
	Kroner.	*Kroner.*
1870	600, 000	1, 400, 000
1871	800, 000	5, 000, 000
1872	400, 000	3, 200, 000
1873	15, 000, 000	15, 400, 000
1874	27, 000	3, 240, 000

D 3.

Remarks ad Table I.

1. Gold of any moment is not produced. Silver is only produced from the mines of Kongsberg, mainly from the royal mines, (Kongsberg silver work;) a little part of the production belongs to several attempts in mining operations for private account in the environs of Kongsberg, viz, for the years 1858–1869, 1,883 kilograms fine silver; 1870, 41 kilograms fine silver; 1871, 24 kilograms fine silver; 1872, 53 kilograms fine silver; 1873, 40 kilograms fine silver; 1874, 13 kilograms fine silver; 1875, 13 kilograms fine silver. All these attempts in mining operations have hitherto been attended with loss.

2 and 3. The figures belong to Kongsberg silver work.

4. Until 1873 only silver is coined according to the old monetary system. From the year 1874 gold and silver are coined in accordance with the law of 4 June, 1873, introducing the gold standard, and the new now current law of 17th April, 1875, introducing the Scandinavian monetary system completely, as it is determinated in the inclosed law last named. From 1st April, 1876, Norway is a member of the Scandinavian monetary union, and from 1st January, 1877, the new system shall be used in all transactions. It is provisionally intended to coin gold to the amount of 17,000,000 kroner; silver to the amount of 5,040,000 kroner; bronze to the amount of 220,000 kroner. Of those

amounts will be ready for circulation at the end of this year, 1876, gold coins to the amount of 8,230,000 kroner; silver coins to the amount of 2,500,000 kroner; bronze coins to the amount of 220,000 kroner. The remainder will be coined in the course of 1877 and 1878. For this purpose, as far as gold coinage is concerned, the stock of the Bank of Norway will furnish the supply, and as far as silver coinage is concerned, the circulating old coins will be more than sufficient and perhaps give a surplus of about 8,000 to 10,000 kilograms. The production of silver, probably about 4,000 kilograms annually, will accordingly be disposed of for manufacturing purposes in the country, and for export.

D 4.

Remarks ad Table II.

The figures are taken from the official statistics. They do not distinguish between silver and gold. For the years 1870 and 1871 the movements were mainly in silver. In the year 1872 there was a certain importation of gold; in the years 1873 and 1874, after the change in the currency enacted in June, 1873, the exportations were mainly of silver, and the importations of gold. I am not able to give better information in this respect. For the year 1875 no statement is as yet published.

Kongsberg, October 21, 1876.

C. F. ANDRESEN.

E.

No. 367.] LEGATION OF THE UNITED STATES,
Stockholm, October 28, 1876.

SIR: I have just received, and herewith beg to transmit, the answers, with one paper and two printed documents accompanying, of Mr. Brusewitz, acting chief of the mint of Sweden, to the questions submitted, through your circular of the 18th ultimo, by the United States Monetary Commission.

Information on some of these topics was communicated to the Director of the United States Mint, in compliance with the Deparment's circular No. 38, of April 16, 1873.

I would suggest that when the report of the commission shall be printed a copy be mailed direct to each of the officers in Sweden and Norway, who have kindly contributed answers.

I have the honor to be, sir, very respectfully, your obedient servant,

C. C. ANDREWS.

Hon. HAMILTON FISH,
Secretary of State, Washington.

[Inclosures.]

F. Mr. Brusewitz to Mr. Andrews.
F 1. Mr. Brusewitz, paper on "Coinage of." &c.
F 2. The mint law of Sweden.
F 3. Monetary convention, &c.

F.

[Inclosure 1 in No. 367.]

Mr. Brusewitz to Mr. Andrews.

ROYAL MINT, STOCKHOLM,
October 27, 1876.

SIR: In reply to the interrogatories and requests addressed to me, I have the honor to give the following information:

1. A copy of the coinage law, as well as of the monetary convention between Sweden and Denmark, lately adopted by Norway also, is hereby attached.

2. The annual coinage of gold and silver coins in Sweden since 1853 is shown in a separate paper. The movement, which I understand to be the import and export of the precious metals, is published in the "Report on the Depreciation on Silver,"* p. 131, and I take the liberty to refer you to that book.

3. As nearly no production of gold and a very insignificant production of silver exists in our country, there is nothing to answer concerning the question 3.

4. When small barrels of gold are deposited in our mint the depositor obtains money for it immediately, but when large quantities are delivered the gold cannot be coined in less than some weeks. For instance, £50,000 in gold is converted into coin in about six weeks. No silver is received for coining, as the silver coins are only fractional currency.

5. No change of standard or anything whatever essential in the coinage law is contemplated at present, as the last change of the monetary standard (1873) from silver to gold is considered as a great benefit for the country.

I have the honor to be, sir, respectfully, your obedient servant,

E. BRUSEWITZ,
t. f. Myntmästare.

Hon. C. C. ANDREWS,
United States Minister-Resident, Stockholm.

F 1.

[Inclosure 2 in No. 367.]

Coinage of gold and silver in Sweden from 1853 *till* 1876.

Year.	Gold.	Silver.	Year.	Gold.	Silver.
	Kilograms.	*Kilograms.*		*Kilograms.*	*Kilograms.*
1853	92	3, 393	1865	133	4, 099
1854	67	859	1866	109	1, 045
1855	61	6, 972	1867	39	3, 073
1856	42	22, 572	1868	129	3, 072
1857	98	22, 978	1869	89	8, 142
1858	139	224	1870		4, 361
1859	104	5, 520	1871	15	9, 975
1860	196	797	1872	24	76
1861	128	6, 464	1873	927	1, 464
1862	140	24, 206	1874	3, 639	4, 716
1863	126	6, 828	1875	3, 049	29, 417
1864	130	15, 369	Total	9, 486	185, 622

Royal Mint, October, 1876.

E. BRUSEWITZ.

* Report of Select Committee of House of Commons, printed by order of July 5, 1876.

F 2.

Coinage law of Sweden.

1873.—No. 31.—SWENSK FÖRFATTNINGS-SAMLING.

[Uppläses från predikstolen.]

Kongl. Maj:ts Nådiga Kungörelse, innefattande Lag om rikets mynt; Gifwen Stockholms Slott den 30 Maj 1873.

Wi Oscar, med Guds Nåde, Sweriges, Norges, Götes och Wendes Konung, göre weterligt: att Wi med Riksdagen funnit godt antaga följande Lag om Rikets Mynt.

§ 1. Guld skall ensamt wara wärdemätare i Riket och således utgöra grunden för dess myntwåsen.

§. 2. Enheten för Rikets myntwigt skall wara det franska grammet.

§ 3. Räkne-enheten skall kallas krona. Kronan delas i hundra öre.

§ 4. Af guld skola twänne hufwudmynt präglas, det ena å tio och det andra å tjugo kronor. Af ett tusen gram eller ett kilogram fint guld utmyntas:

Twåhundrafyratioåtta Tio-krone-stycken eller Etthundratjugofyra Tjugo-krone-stycken.

Guldmynten präglas af myntguld, som är en legering af Niohundra wigtdelar fint guld och Etthundra wigtdelar koppar.

Alltså skall hwarje Tio-kronestycke wäga 4.4803 gram och hålla 4.032258 gram fint guld; Tjugo-kronestycke wäga 8.9606 gram och hålla 8,064516 gram fint guld.

§ 5. Till skiljemynt skall anwändas dels silfwer, legeradt med koppar i det förhållande, som här nedan säges, dels brons.

§ 6. Af silfwer skola präglas myntstycken af följande namnwärde, nemligen, Twå Kronor, En Krona, Femtio Öre, Tjugofem Öre, Tio Öre.

Etthundra stycken sådana skiljemynt skola innehålla fint silfwer: Twå-kronestycken: Ett tusen twåhundra gram; En-kronestycken: Sexhundra gram; Femtio-örestycken: Trehundra gram; Tjugofem-örestycken: Etthundra fyratiofem och ett femtedels gram; Tio-örestycken: Femtioåtta gram.

Dessa skiljemynt skola utmyntas af följande legeringar: Twå- och En-kronestycken: af Attahundra wigtdelar silfwer och Twåhundra wigtdelar koppar; Femtio- och Tjugofem-örestycken: af Sexhundra wigtdelar silfwer och Fyrahundra wigtdelar koppar; Tio-örestycken: af Fyrahundra wigtdelar silfwer och Sexhundra wigtdelar koppar.

Alltså skall hwarje Twå-kronestycke wäga 15 gram, En-kronestycke wäga 7.5 gram, Femtio-örestycke wäga 5 gram, Tjugofem-örestycke wäga 2.42 gram, Tio-örestycke wäga 1.45 gram.

§ 7. Af brons präglas myntstycken af följande namnwärde: Fem Öre; Twå Öre; Ett Öre.

För prägling af dessa myntstycken skall bronsen sammansmältas af Nittiofem wigtdelar koppar, Fyra wigtdelar tenn och En wigtdel zink.

Ett kilogram brons utmyntas till Etthundratjugofem Fem-örestycken eller Twåhundra femtio Twå-örestycken eller Femhundra Ett-örestycken.

§ 8. Afwikelserna öfwer eller under här ofwan stadgade halt få högst utgöra: å Guldmynten: Femton tiotusendelar fint guld, å Silfwermynten: Tretio tiotusendelar fint silfwer af hwarje myntstyckes bruttowigt.

Afwikelserna öfwer eller under här ofwan stadgade wigt få högst utgöra: för hwarje Tjugo-kronestycke: Femton tiotusendelar, för hwarje

Tio-kronestycke: Tjugo tiotusendelar, för hwarje Två-kronestycke: Tretio tiotusendelar, för hwarje En-kronestycke: Femtio tiotusendelar, för hwarje kilogram af Femtio-örestycken: Sextio tiotusendelar, för hwarje kilogram af Tjugofem-örestycken: Etthundra tiotusendelar, för hwarje kilogram af Tio-örestycken: Etthundrafemtio tiotusendelar, allt af hwarje myntstickes rätta wigt.

Wid utmyntning af guld må dock iakttagas, att afwikelsen i wigt för hwart parti af tio kilogram myntguld ej får öfwerskrida fem gram.

§ 9. En hwar, som wid Rikets myntwerk till myntning inlemnar guld, eger att derför erhålla guldmynt, dock mot erläggande, till myntningskostnadens betäckande, för Tjugo-kronostycken af ¼ procent och för Tio-kronestycken af ½ procent af det utmyntade beloppets wärde.

§ 10. Skiljemynt må ej för enskildes räkning inom Riket tillwerkas och präglas.

§ 11. Angående myntstyckenas diameter, prägel, inskrift, rand och hwad mer till deras yttre utseende hörer, will Kongl. Maj:t särskildt förordna, äfwensom de regler, hwilka wid Myntwerket böra gälla för probering och justering, inlemnande af guld till förmyntning m. m.

§ 12. De efter denna lags stadganden präglade guldmynt äro, under de här nedan bestämda wilkor, lagligt betalningsmedel i förhållande till hwem som helst och i hwilket belopp som helst.

Skiljemynten skola till obegränsadt belopp mottagas wid betalning till statens kassor. Ingen annan ware pligtig att i en betalning mottaga högre belopp än tjugo kronor i 2- och 1-kronestycken, fem kronor i mindre silfwermynt och en krona i bronsmynt.

§ 13. Myntstycke af guld, silfwer eller brons, som blifwit wanställdt eller genom skafning, filning, borrning, tillödning eller annan olaglig åwerkan af hwad slag som helst skadadt, skall hafwa förlorat sin egenskap af lagligt betalningsmedel.

§ 14. Guldmynt upphör att wara lagligt betalningsmedel i förhållande till statens kassor, när det genom nötning förlorat mer än två procent, men till alla andra, när det förlorat mer än en half procent af den wigt, som det enligt § 4 af denna lag skall ega.

Skiljemynt upphör att wara lagligt betalningsmedel i förhållande till statens kassor, när det är så nött, att ej med säkerhet kan skönjas, huruwida det för Rikets räkning är prägladt, men till alla andra, när prägeln genom nötning blifwit otydlig.

§ 15. Mynt, som ej längre år lagligt betalningsmedel i förhållande till hwem som helst, äfwensom silfwermynt, hwilka hålla fyra eller flere procent mindre än sin rätta wigt, må, sedan de till någon af statens kassor inkommit, ej åter af densamma sättas i omlopp.

§ 16. I Riksbankens hufwudkontor, äfwensom i dess afdelningskontor i Göteborg och Malmö eger en hwar att få hwilket som helst belopp af sådana mynt, som endast till statens kassor äro lagligt betalningsmedel, utwexladt mot lika stort belopp samma slags gångbara mynt såsom ock att få hwilket som helst med tio kronor delbart belopp af skiljemynt utwexladt mot guldmynt. Genom särskilda stadganden bestämmes å hwilka andra ställen dylik utwexling skall ega rum.

§ 17. Hwad här ofwan i §§ 12, 13, 14, 15 och 16 stadgadt är om Rikets mynt dess giltighet som betalningsmedel, dess inwexling och utgifwande af statens kassor skall, på sätt mellan Swerige och Danmark afslutad konvention förmår, äfwen gälla om de i öfwerensstämmelse med samma konvention för Danmark präglade mynt af guld, silfwer eller brons.

De föreskrifter, hwilka för werkställighet af denna lag erfordras, meddelas uti särskild lag af samma dag.

Det alle som wederbör, hafwe sig hörsamligen att efterrätta. Till

yttermera wisso, hafwe Wi detta med Egen hand underskrifwit och med Wårt Kongl. Sigill bekräfta låtit. Stockholms Slott den 30 Maj 1873.

[L. S.] OSCAR.

C. FR. WÆRN.

[Uppläses från predikstolen.]

Kongl. Maj:ts nådiga Kungörelse, innefattande Lag om öfwergången till det nya myntsystemet; Gifwen Stockholms Slott den 30 Maj 1873.

Wi Oscar, med Guds Nåde, Sweriges, Norges, Götes och Wendes Konung, göre weterligt: att Wi, med Riksdagen, funnit godt antaga följande Lag om öfwergången till det nya myntsystemet.

§ 1. I den mån mynt af den beskaffenhet, som genom myntlagen af denna dag föreskrifwes, hinna utmyntas, skola de genom Riksbankens försorg den allmänna rörelsen tillhandahållas. Deremot skola de enligt Kongl. Förordningen den 3 Februari 1855 eller äldre författningar präglade mynt, som till Riksbankens hufwudeller afdelningskontor inflyta, i den mån de med det nya myntet kunna ersättas, i Riksbanken qwarhållas, dock med förbehåll af den rätt emot Riksbanken, som tillkommer innehafware af dess å silfwer lydande sedlar.

§ 2. Med upphäfwande af den enskilde personer senast genom Kongl. Förordningen den 3 Februari 1855 medgifna rätt att till Myntwerket inlemna silfwer för utmyntning emot myntskatt, likasom ock af den dem genom Kongl. Förordningen den 31 Juli 1863 lemnade rätt att till Myntwerket för utmyntning af Caroliner inlemna guld, skola hädanefter för enskildes räkning wid Myntwerket präglas endast Tjugu- och Tiokronestyken af guld.

§ 3. Det nya myntet skall genast wara lagligt betalningsmedel i enlighet med myntlagens bestämmelser; och skall derwid, då förbindelser, lydande å äldre myntsorter, med nytt mynt gäldas, En krona räknas lika med En riksdaler riksmynt. Efter samma förhållande skola ock alla nu gällande mynt och Ricksbankens å silfwer lydande sedlar, så länge de fortfara att wara lagligt betalningsmedel, mottagas i betalning för belopp, utfästa eller utsatta i det nya myntet.

§ 4. Så snart med Danmark afslutad myntkonvention ratificerats och ratifikationerna blifwit utwexlade, inträder den bestämmelse i kraft, på grund af hwilken de enligt samma konvention utgifna Danska mynt äro lika med de Swenska mynten lagligt betalningsmedel i Swerige.

§ 5. Från och med den 1 Januari 1875 skola alla offentliga räkenskaper föras efter det nya myntsystemet.

§ 6. De enligt Kongl. Förordningen den 3 Februari 1855 eller äldre författningar präglade silfwermynt skola uphöra att wara lagligt betalningsmedel, de af En Riksdaler Riksmynts wärde och deröfwer från och med den 31 December 1878 och de af ringare wärde från och med samma dag 1881.

I Riksbanken komma dessa mynt fortfarande att inwexlas efter den i § 3 stadgade grund.

Det alle, som wederbör, hafwe sig hörsamligen att efterrätta. Till yttermera wisso hafwe Wi detta med Egen hand underskrifwit och med Wårt Kongl. Sigill bekräfta låtit. Stockholms Slott den 30 Maj 1873.

[L. S.] OSCAR.

C. FR. WÆRN.

SWITZERLAND.

A. Mr. Upton to Mr. Cadwalader.
B. Mr. Upton's remarks.
C. Latin monetary convention, (omitted.)

A.

No. 188.] UNITED STATES CONSULATE,
Geneva, December 18, 1876.

SIR: Some time after Mr. Rublee's departure, his private secretary sent me a circular from the State Department, containing certain interrogatories, a part of which are herewith answered. I also inclose a copy of a monetary convention between France, Italy, Belgium, and Switzerland. The translation, being too bulky for one envelope, I have sent separately.

I am, sir, your obedient servant,

CHAS. H. UPTON,
United States Consul.

Hon. JOHN L. CADWALADER,
Assistant Secretary of State, Washington, D. C

B.

For the United States Monetary Commission.

UNITED STATES CONSULATE,
Geneva, Swiss Confederation.

Switzerland of late years has felt the influence of the French and German war, which was followed in the latter country by the demonetization of silver and the adoption of the gold standard.

The intrinsic value of silver has fallen here, as at one time in London, from 12 to 15 per cent., but this difference has not affected the value of silver money in circulation, for at this time the gold piece of 20 francs is worth but slightly more (some centimes) than 20 francs in silver.

The Swiss Confederation does not coin gold, but, according to her convention with France, Italy, and Belgium, (a copy of which, with a translation, is herewith inclosed,) she has a right to strike off a certain amount of pieces of silver coin; and even this right she has not used to its full extent. She has coined this year only 1-franc pieces, and this for the sum of 2,500,000 francs. Gold in ingots is sold here at 94 francs the ounce of $\frac{900}{1000}$ fineness—that is to say, 10 per cent. alloy.

Fine silver sells for 197 francs the kilogram. Most of the European nations having the double standard are taking precautions against contingent loss in silver; thus, Holland has recently adopted the gold standard for herself, while retaining silver for her colonies.

In Belgium a deputy has recently proposed to the Chamber to suspend the silver coinage of pieces of 5-francs after the 1st of January, 1877.

CHAS. H. UPTON,
United States Consul at Geneva.

TURKEY.

A. Mr. Maynard to Mr. Fish, December 18, 1876, replying to interrogatories B of commission.

B. Translation of legends on Turkish paper-money.

C. Reply of Imperial Ottoman Bank to interrogatories B of commission.

A.

No. 111.] UNITED STATES LEGATION,
Constantinople, December 18, 1876.

SIR: I have delayed until the last practicable moment a reply to the circular from the Department of State, bearing date September 18, 1876, in relation to the value of the precious metals in this empire, hoping to obtain some information of value for the purposes of the inquiry ordered by Congress. Application was made to one of the chief officers of the imperial mint, an American citizen, who has been for many years connected with the establishment, and a copy of the "interrogatories and requests addressed to the chief officers of the mint or mints in foreign countries" submitted to him. After retaining it several days for examination, he declared himself unable to respond to the inquiries without authority from the Porte.

The Imperial Ottoman Bank, an institution having intimate fiscal relations with the government, seemed the next most available source of intelligence, and I presented the subject there. A reply was promised in a few days by a gentleman of great intimacy with the management, but meeting me subsequently, he said he had found the subject more difficult than he had anticipated, and should require more time. He has not yet made any response, and as it is purely a favor on his part, I cannot urge him to prompt action. Should I receive anything from him, I will forward it; if before the mail closes, with this dispatch; if afterward, in a separate package.

Responding to the "interrogatories and requests addressed to the representatives of the United States in foreign countries," I remark that, in a country like this, where no statistics are kept, and where there are no public documents accessible to strangers, the information sought for can be obtained only by a series of personal inquiries from different officials and business men. This would involve an investigation which I have no means of making, even if the state of Ottoman finances did not make the officials very chary of communicating any knowledge of them to strangers. This explanation is necessary to qualify what I shall have to say.

The money unit in Turkey is the piaster, equal in value, according to our Treasury standard, (see circular of the Secretary, dated January 1, 1875,) to four cents and three mills, ($0.043.) The piaster is subdivided into forty (40) paras. This is the money of account.

The present coinage, and that which circulates almost exclusively in Constantinople, was adopted in the time of Sultan Medjid, and has been used some thirty years. It is gold, silver, and copper. The copper is coined in pieces of 5, 10, 20, and 40 paras, or piasters—halves, quarters, and eighths. The silver coins are the medjidieh, (named from Sultan Medjid,) a piece of 20 piasters; the half-medjidieh, a piece of 10 piasters; the quarter-medjidieh, (called also the beshlik and the tcherek,)

a piece of 5 piasters; and pieces of 1 piaster and of 2 piasters, and of ½ piaster. The gold coins are the lira or pound, a piece of 100 piasters; quarters, 25 piasters; halves, 50 piasters; 2½ liras, 250 piasters; 5 liras, 500 piasters.

The work of coining is all done at the imperial mint in Constantinople, a government establishment, and is of course monopolized.

There is at this moment no coinage of copper, nor has there been for several years past. Indeed, the greater part of the copper coins in circulation—and the copper currency is large—were struck during the reign of Sultan Medjid; that is to say, prior to 1861. The operations of the imperial mint are at present very irregular, and are employed upon gold or silver, just as a supply of either metal is obtainable. Both gold and silver coins begin to appear bearing the cipher of the reigning Sultan, now four months upon the throne.

The original scheme evidently contemplated that the several coins should be interchangeable at their nominal value, and the weight and fineness of the metals were adjusted to that end, according to their relative worth at that day.

By degrees, however, silver depreciated below gold, and copper below both silver and gold.

At the time of my arrival here, May, 1875, silver was at a discount of 2 per cent. compared with gold, and copper at a discount of 20 per cent. compared with silver; 22 per cent. compared with gold—that is to say, the gold lira (100 piasters nominal value) was worth 102 piasters in silver and 122 piasters in copper, and the silver medjidieh (nominal value 20 piasters) was worth 24 piasters in copper.

The discount has gradually increased until to-day silver is at a discount of 4½ per cent. compared with gold, and copper at a discount of 40 per cent. compared with silver and 50 per cent. compared with gold; that is to say, the gold lira is worth 104½ piasters in silver and 150 piasters in copper, and the silver medjidieh is worth 28 piasters in copper. These are the rates in the market for actual trade, and may vary a trifle from bankers' rates.

These changes are too marked to be attributable to the commercial value price-current of the different metals. I am aware of no corresponding change in the quotations sufficient to account for them.

My explanation is the same that I give for the depreciation of paper money in our country, and is this: Currencies not interchangeable are relatively valuable according to the number and efficiency of their respective functions. For example, a currency good only for the payment of taxes, will be inferior to one good for the payment of taxes and private domestic debts; and both will be at a discount compared with a currency which pays not only taxes and domestic debts, but foreign debts as well. So a currency with a local circulation only is less valuable than one with a national circulation; and that with a national circulation only, is less valuable than one which circulates the world over.

Turkish copper circulates in Turkey only, and is too bulky to circulate very widely even here. Silver is much easier of transmission, and is sent by post through the Ottoman dominions. This makes it available for the purposes of internal trade. Except as bullion, probably very little of it is sent abroad. Gold being the currency of the commercial world, is in demand to equalize the exchanges, which are always unfavorable to Turkey. Thus gold, having a higher function than silver, is more valuable, and both gold and silver, for the same reason, more valuable than copper.

These causes are believed to be permanent, and their effect will be greater or less as they shall operate, from time to time, with increased or diminished force.

The trade and commerce of the country have been subjected to so many and so various influences, political and other, that it would be rash in the extreme to estimate the effect upon them of the fluctuations in the currency.

I have confined my remarks to the Turkish metallic currency. The gold and silver coins of Italy, Greece, France, England, and of other European states, are frequently seen and have a limited circulation especially among the foreign bankers and traders, without effect, however, so far as I am aware, upon the subject of present inquiry.

Formerly the Imperial Ottoman Bank issued notes for circulation, which, as they were redeemed in gold coin when presented at the counter, were quite as valuable, because easier of transmission. I have an impression that of late this circulation has been contracted. The amount outstanding at any time can be known only by the officers of the bank. Should an answer be given to my application, it may or may not appear, according to the policy which dictates the management.

During the Crimean war the Turkish government issued a paper currency (cäimé). This issue was discontinued after the close of hostilities, and the circulation ceased. A few months ago the same expedient was resorted to again, and a few millions, in denominations of 5, 10, 20, 50, and 100 piasters, are now in the hands of the public. The engraving and printing was done in Paris, and is certainly none of the best, while the paper is very common. Through the influence, it is said, of the Imperial Ottoman Bank, the Porte was induced reluctantly to number the notes, as a safeguard, however slight, against both counterfeiting and excessive issue.

At first, this paper was at a discount of 5 per cent. compared with gold; now the discount is 24 per cent.

Finding it more difficult, in a discussion like the present, to determine what to omit than what to say, I close with the hope that my statement may prove neither uninteresting nor uninstructive.

I have the honor to be, sir, very respectfully, your obedient servant,

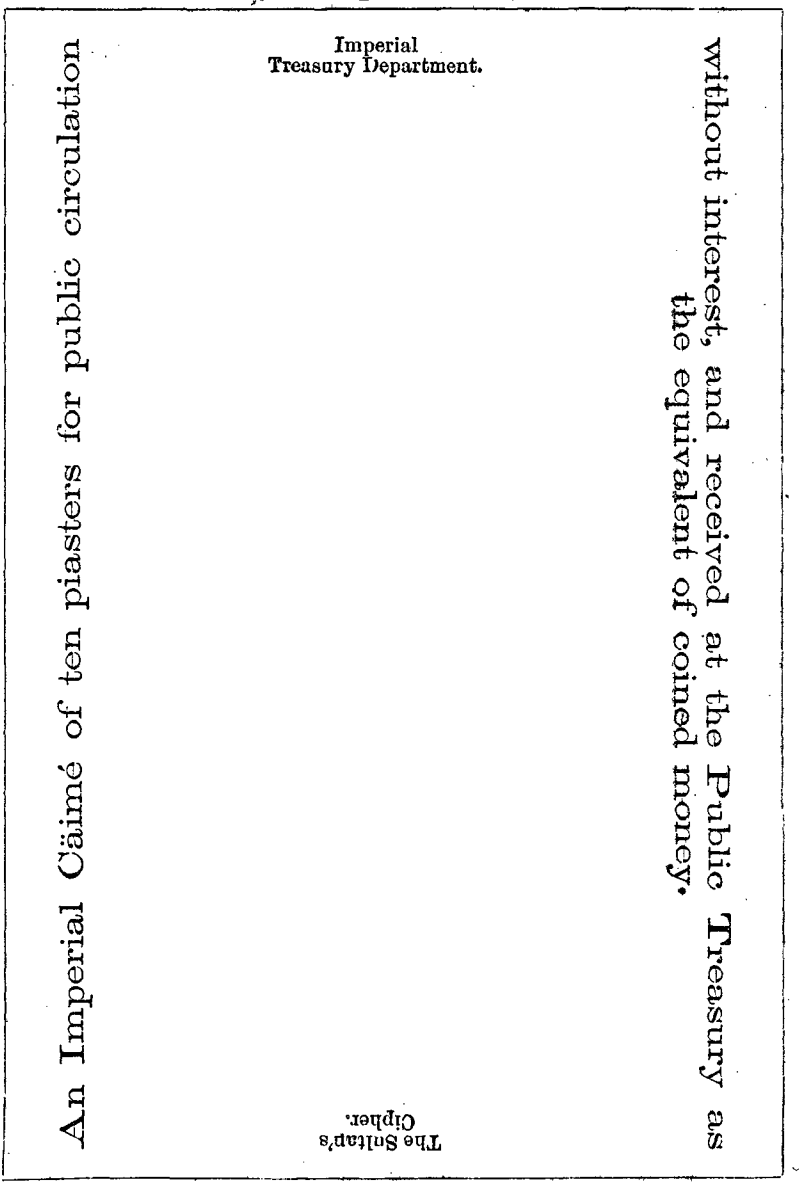
HORACE MAYNARD.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

P. S.—The response from the Imperial Ottoman Bank has just been received, and is so clear and satisfactory that, had it been examined by me before preparing the dispatch, it would have greatly abbreviated my labor. A copy is inclosed.

B

Translation of the 10*-piaster cäimé, marked "B."*


Imperial
Treasury Department.
An Imperial Cäimé of ten piasters for public circulation
without interest, and received at the Public Treasury as
the equivalent of coined money.
The Sultan's
Cipher.

An emergency—10. An emergency. (The brown letters.) A cäimé (note) of imperial paper money for 10 piasters.

(The white letters.) Paper worth 10 piasters without interest. Paper worth 10 piasters without interest.

(The seal on the back.) Ghalib, minister of finance.

5 Redjib, 1293.

The translations of the five (5) and twenty (20) cäimé notes are substantially the same as that of the ten (10) cäimé note.

C.

Statement prepared at the Imperial Ottoman Bank in response to the interrogatories submitted by the gold and silver commission of Congress.

Various circumstances render the task of giving detailed answers to the questions addressed to the representative of the United States at Constantinople, by the United States Monetary Commission, 1876, one of such large proportions that any attempt to accomplish it within the limited time allowed for the returns must inevitably fail. The monetary system of the Ottoman Empire, or, to speak more correctly, Turkey, for the vassals of the Sultan cannot be embraced, is in a state of some confusion; statistics are wanting, and laws in course of transformation. The utmost, therefore, that can be effected is to reply to those questions for the solution of which documents are immediately attainable.

Answers to questions in paper B.

1. Yes.

2. (*a.*) The relative value of gold to silver has considerably risen within the past fifteen years, as may be seen from the agio on the silver coins, which has risen within three years from 1¼ per cent. to 5 per cent.

(*b.*) Gold, silver, and debased silver. Gold, in Constantinople and some other large towns; silver, in others, such as Smyrna; debased silver in the interior. At the same time it should be remarked that, in certain cases, the Turkish government recognizes not only these coinages, but also copper, as standards. Thus, for instance, the customs are payable in medjidieh, (a silver coin,) the verghi (a species of house tax) in beshlik or debased coin, and tobacco (a government monopoly) in copper. The issue of a paper currency (cäimé) has introduced a fourth standard. It is issued as beshlik money. Besides the depreciation of silver, debased silver and copper coins have been steadily going down during the last years, especially copper coins, which within the past twelve months have fallen some 20 per cent.

On December 13, 1876, the prices of the different currencies as against the gold lira or 100-piaster pieces, of which the fineness is the same as French gold, viz, $\frac{9}{10}$, were:

	Per cent.
Medjidieh, at a discount of	4.6
Debased coinages { beshlik, at a discount of	9.5
Debased coinages { metallic, at a discount of	11.5
Copper at a discount of	49.0
Paper, (cäimé,) at a discount of	22.25

(*c.*) Turkey has coined in gold 29,000,000 Turkish pounds, (a Turkish pound is $\frac{10}{11}$ of a pound sterling;) and in silver, an amount equivalent to 6,500,000 Turkish pounds, out of which not more than 15,000,000 Turkish pounds are estimated to remain in the country.

(*d.*) Impossible to say.

(*e.*) 3,000,000 Turkish pounds in government notes, (the above-mentioned cäimé.) They are legal-tenders for all sums payable in beshlik.

The Imperial Ottoman Bank, which is the only establishment possessing the right of issuing bank-notes, had, until quite lately, a large circulation of its own in Constantinople, and to some extent in other chief towns of the empire; but since the depression in business, caused by the panic in Turkish securities, this circulation has been very considerably reduced.

(*f.*) May be taken as nil.

(3.) Quantity of silver introduced into the country from Europe, and demonetization of silver in Germany.

(6.) The brassage from coining gold and silver bullion is the same as in England. The government monopolizes coining. No coins are manufactured for other countries. During the last twenty or thirty years Turkish coins have been imitated in Greece and England, and surreptitiously introduced into the country; but it is impossible to form an estimate of the amount.

(7.) No statistics.

(8.) The mines cannot be worked without government permission. A duty of 1 to 5 per cent. is imposed on the gross produce and also on the extent of land occupied. But the mining laws are undergoing modifications, giving more liberty to working them. There is no special tax on gold or silver.

VENEZUELA.

A. Mr. Russell to Mr. Fish, October 26, 1876, inclosing reply to interrogatories B of commission.

B. Reply to interrogatories B of commission.

A.

No. 198.] LEGATION OF THE UNITED STATES,
Caracas, October 26, 1876.

SIR: I have the honor to inclose answers to the interrogatories of the United States Monetary Commission, forwarded with the Department's circular of September 18, 1876.

I have placed in the hands of the minister of foreign relations the questions addressed to officers in charge of the mint, with the request that, as there is no mint in Venezuela, they might be submitted to some expert in the treasury.

Having no expectation of receiving a reply in time for the purposes of the commission, I have not delayed sending this report. I am under obligations to Messrs. John Röhl and H. L. Boulton, leading merchants in Caracas, for aid in making this partial reply to the interrogatories proposed.

I have the honor to be, sir, very respectfully, your obedient servant,

THOMAS RUSSELL.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

B.

Answers to interrogatories B proposed by the United States Monetary Commission, 1876, by Thomas Russell, minister resident, Venezuela.

1. No such change has taken place.

2. Answered above.

(A.) The average (and constant) value of standard silver, as compared with standard gold, is and has been as 1:15.0003+ as fixed by law. No sales of pure silver have been made of any consequence. The only sales of pure gold have been in the mining-region, where the great companies buy from miners, from Indians, and from others, small

quantities of gold, which is exported with the product of their own mines.

(B.) Both gold and silver are standards of value, each being legal tender for all amounts. The relation is as stated above, each being 900 fine. The gold pieces authorized are the fuerte or venezolano, grams 1.6129; 5-venezolano piece, grams 8.0645; 10-venezolano piece, grams 16.1290; 20-venezolano piece, 32.2580. The silver fuerte or venezolano is of the same value as the gold one, and weighs 25 grams. Subsidiary coins are spoken of under. No change has been made in the relative value by law. The attention of lawgivers seems to have been first drawn to the question of relative value in 1857, when the fuerte was adopted as the unit, with "the value of ten reales," and when the relation between the two metals was fixed, being the same afterward established by the act of 1871, now in force. Of course, the laws of Spain prevailed before independence.

(C.) There are no data for the absolute quantity of coin now in the country. Of coin actually in circulation, gold is estimated to be in value 95 and silver 5 per cent. It is said that great quantities of gold coin are hoarded, especially in the "llanos" or plains, from which it is proverbial that gold never returns. When the "llanero" is killed in civil war, his secret as to the hiding-place generally dies with him. The "morocoto," or $20 gold piece of the United States, is the favorite coin for hoarding, and its disappearance from circulation is a sign of impending revolution.

There is no bullion in Venezuela, except gold on its way from the mines to Europe. It sells for 24½ to 25 pesos per ounce, a peso being four-fifths of a venezolano, or 75¾ cents United States gold. (All accounts, except public ones, are kept in pesos, an imaginary or extinct coin.)

The law provides for subsidiary coins of silver of the standard of 835, viz: The half-venezolano; the peseta, of $\frac{1}{5}$; decimo or real, $\frac{1}{10}$, and medio, $\frac{1}{20}$, venezolano. These are legal tender only to the amount of 40 venezolanos.

The amount of gold coined in Venezuelan currency is 516,000 venezolanos. The amount of all subsidiary coins is 400,000 venezolanos. No silver venezolanos have been received from Paris, where the coinage is carried on; but the amount of 240,000 venezolanos is in process of coinage. The gold and silver coins of all countries circulate as stated in answer 6.

(D.) The amount existing in the form of plate, jewelry, &c., is insignificant. Formerly, there were large quantities of silver plate, but wars and family vicissitudes have so reduced the amount that it is not worthy of consideration.

(E.) There are no government or individual notes in circulation as money. The amount of paper money in circulation is 300,000 venezolanos. It was issued by the Compañie de Crédito, now replaced by the Bank of Caracas, a joint-stock company, with a capital of 160,000 venezolans. The paper is redeemable in coin, and has never been at a discount. It only circulates in Caracas, and to a slight extent in Laguayra. It is not a legal tender. Twenty years since the Bank of Venezuela was set up, with a capital consisting of certificates of national debt and a large circulation of paper-money. Its failure was complete, and the notes soon ceased to have any value.

(F.) It is impossible to give the amount of gold mined in this country now or at any time. But it is believed that two and a half millions have been mined this year, ($2,500,000.) All the gold-mines now worked are in the state of Guayana, being the same that Raleigh sought to

find in El Dorado. They have been wrought for ten years, having been opened by the enterprise of United States citizens. The old Spanish mines at the Teques and elsewhere have been abandoned. It may be said that for half a century up to 1866 no precious metals were produced here. It is thought that the mines of Guayana will yield immensely, when fully developed.

No silver is now mined in Venezuela, although there are deposits in the State of Cumaná and elsewhere.

3. Answered above.

4. Same answer. A country with wealth and commerce so limited as those of Venezuela will be controlled in all monetary matters by events in other nations. The only decided influence which Venezuela could exert would be by the full development of its gold-mines. The Callao Mine produced last month more than 4,000 ounces. Its shares, costing $1,000 each, pay monthly dividends of $1,500. The producing-capacity of the gold-region seems almost boundless.

5. Answered above.

6. There is no coinage in the country. A mint has been decreed by law in 1854, and again in 1865 and in 1871, with power to coin gold and silver without limit. But the law has not been carried into effect. Private mints are not allowed. The old Spanish mint at Caracas was used for coining money by the government of Venezuela until 1830, when its working was forbidden by law.

The gold and silver coins here named are used as legal-tender at the rates following:

Nation.	Coin.	Metal.	Value.
French	Double-napoleon	Gold	V. S. 20
Do.	Napoleon	do	4.10
	(Fractions in proportion.)		
Do.	5-franc piece	Silver	1.00
	(Fractions in proportion.)		
Great Britain	Double-sovereign	Gold	10.40
Do.	Sovereign	do	5.20
Do.	Half-sovereign	do	2.60
Do.	Crown	Silver	1.165
Do.	Half-crown	do	0.587
Do.	Shilling	do	0.25
Do.	Half-shilling	do	0.125
Do.	Quarter-shilling	do	0.062
Spain	Dollar	do	1.075
Do.	Half-dollar	do	0.537
Do.	Peseta with pillars	do	0.25
Do.	Peseta of Seville	do	0.20
Colombia	Double-cruder	Gold	20.00
Do.	Cruder	do	10.00
Do.	Ounce, or doubloon of Popayan	do	16.80
Do.	Ounce, or doubloon of Bogota	do	16.80
	(Fractions in proportion.)		
Do.	Dollar of eight reals	Silver	1.00
Do.	Grenada dollar since 1839	do	0.80
Brazil	Moidore	Gold	5.25
Do.	4-portuguese	do	9.30
Do.	960-reis piece	Silver	1.075
Do.	100-reis piece	do	0.70
Do.	640-reis potaca	do	0.725
Central America	Ounce or doubloon	Gold	16.00
Do.	Ounce, coined in 1837	do	16.80
	(Fractions in proportion.)		
United States	"Morocota," or $20.00-piece	do	21.40
Do.	$10.00-piece	do	10.70
Do.	Half-eagle	do	5.35
Do.	Quarter-eagle	do	2.675
Do.	Dollar	do	1.05
Do.	Dollar	Silver	1.075
Do.	Half-dollar to 1852	do	0.537
Do.	Half-dollar since 1852	do	0.50
	(Fractions in proportion.)		
Germany	Thaler	do	0.80
Do.	Vereinsthaler	do	0.75

Quarters and smaller fractions of dollars of Peru, Chili, Mexico, and Bolivia have the same value with the like pieces of the United States and of Spain.

Values are given in venezolanos. The inferior and arbitrary value assigned to the gold dollar is supposed to have been intended to prevent the circulation of a coin regarded as inconvenient.

Of course, no gold no silver coins are manufactured for export to foreign countries.

The importation of foreign silver coins was permitted until June 28, 1876, when it was forbidden on pain of confiscation. The reason for this was, that owing to the depreciation of silver elsewhere and the high standard here, a considerable importation had begun, chiefly of Mexican and United States dollars; and it was feared that gold would be driven from the country. There is now a great scarcity of silver coins. No surreptitious introduction of any class of coins is known to exist.

7. The annual import and export of coin cannot be ascertained. Coin is imported or exported according to the rate of exchange, which mainly depends upon the coffee-crop. The amount of gold exported this season, *i. e.*, since the last exportations of coffee, is supposed to amount to 450,000 venezolanos.

The laws of mining are confused. The constitution secures to each state free administration of its natural products. The code declares that mines are national property, and provides that each mine shall be of the extent of 10,000 square yards. Mining is, however, practically governed by the laws of the state of Guayana, where it is carried on. These laws are frequently changed by state legislation, by executive decrees, and by the decisions of courts. At present each mine or "mina" consists of one hundred square "varas," or Spanish yards. There is no restriction as to the number of mines that may be granted to one person or company. Grants of four hundred mines are common.

The royalty formerly required by the nation, and now reserved to the state, was and is ten per cent. of the net product of the mines. Formerly this could be paid in the metal, or in money at $18 an ounce, each dollar being $\frac{10}{10\frac{9}{7}}$ of a United States gold dollar. In practice, each company compounds for the payment of a fixed sum annually. Each grantee is obliged to work and to continue to work his mines, under a penalty, which is sometimes a pecuniary one and sometimes confiscation. A mine is regarded as wrought when eight men are employed. Various privileges are secured to mining enterprises.

It has been a subject of consideration with this government whether the nation shall assume control of the mines and receive the royalty.

The gold is all shipped to England or to Hamburgh by the great mining companies. The gold which they buy costs them from 24½ to 25 pesos, equivalent to 19.60 or 20 venezolanos, as stated above.

I am not aware that any authorities or documents or other evidence exists here, and I regret that from the circumstances of the country, and especially from the want of statistics, these answers will give so little information to the honorable commission.

Respectfully submitted by

THOMAS RUSSELL.

The following dispatches from our ministers at Lima and Peking were received too late to be inserted in their proper place:

LEGATION OF THE UNITED STATES,
Lima, Peru, January 17, 1877.

SIR: I have the honor to refer to my dispatch No. 107, of November 21 last. I there wrote that the present Congress was occupied in forming a new mining code, or rather amendment of the old one.

I inclose an extract from the South Pacific Times, of Callao, with the amended mining law, as passed in Congress, and signed by the President, January 12.

This has been received with great favor by the press of this city, with one exception—the church party's organ, La Sociedad.

The word "claim" is a "pertenencia" or "amparo" of 200 varas square, as explained in the above-mentioned dispatch.

I am, sir, most respectfully, your obedient servant,

RICHARD GIBBS.

Hon. HAMILTON FISH,
Secretary of State, Washington, D. C.

[From the South Pacific Times, Tuesday, January 16, 1877.]

AMENDED MINING LAW OF PERU.

Congress having passed the following law, it has now been promulgated by order of President Prado:

ARTICLE 1. A tax of fifteen soles per six months is hereby imposed on each claim or mine, of whatever dimension it may be.

ART. 2. Claims or mines of coal, petroleum, or gold are subject to the tax imposed by the foregoing article.

ART. 3. Tunnels, machinery, or other handiwork will not render a mine or claim exempt from this tax.

ART. 4. Owners of mines, or their attorneys, will pay into the office appointed by law the tax imposed by article 1.

ART. 5. The punctual and continuous payment of this tax is requisite for the legal ownership of a mine, whether it be in work or idle. The owner who ceases to pay in six months will lose all right or claim to the property.

ART. 6. All claims to a mine will be null and void if it be proved that the owner thereof had paid the tax hereby imposed, even if he does not work the property.

ART. 7. No claim to a mine or the ownership thereof, although it be worked by the defendant, will be heard in a court, unless the person bringing the suit produce proof that he has paid the tax.

ART. 8. Each claim and mine is indivisible in the payment of this tax.

ART. 9. Each claimant at law to the possession of a mine shall pay the total amount of the tax, and any one who does not so pay will lose all title to the property.

ART. 10. The payment of this tax shall be obligatory from the 1st of July, 1877, and it shall always be collected within the last two months of each half-year.

ART. 11. The proceeds of this tax shall be applied as follows: 1. To cover the expenses of the school of architects and miners; 2. To pay a corps of mining engineers who shall be employed in the different mining regions; 3. To generally advance mining interests.

ART. 12. Every person who has, or believes he has, a claim to a mine, whether it be idle or at work, shall present to the proper mining committee before June 30 next a legalized copy of his titles to the same, and the committee shall give a duly legalized receipt for the same to those interested.

ART. 13. The territorial mining committee shall open a register of mines in which they shall make certified copies of the documents presented to them in accordance with the previous article and such as may be issued hereinafter.

ART. 14. Directly such copies shall have been taken they shall be forwarded to the administrative section of the treasury, where they shall also be copied, and subsequently placed in the archive which will be formed for this purpose.

ART. 15. The administrative section of the treasury will form, from the register thus kept, a general tax-list, which shall be divided into mineral districts. In this tax-list there shall be inscribed: 1. The name and class of mine; 2. The name of the owner thereof; 3. The number of the claims of each owner; 4. The size and situation of each claim; 5. The tax which each owner has to pay.

ART. 16. The said tax-list shall be published during March and September of each year, and during April and October the prefects, subprefects, and territorial committees shall receive a sufficient number of copies to enable them to give it due publicity.

ART. 17. In all subsequent publications of this tax-list only owners will be included who have paid the tax for the previous six months, as provided in articles 1 and 2, and as proved by the lists of the collectors; and there shall only be added to the said tax-list the claims which are duly inscribed in the mining register.

ART. 18. The tax-collectors shall send in a report during February and August embracing the mines which have paid the tax during the previous six months.

ART. 19. All claims of which the owners shall not have complied with the obligations of article 12 by the 30th June, 1877, shall again become the property of the state, and may be claimed by other parties in conformity with the law, and the last possessor shall enjoy no claim thereto after the expiry of that date. Should he endeavor to do so, the judges will pay no attention to the suit.

ART. 20. In the absence of a territorial mining committee the judges of first instance, in their respective provinces, shall exercise all the administrative and judicial powers conferred on the mining deputies.

ART. 21. The mining deputy, or judge of first instance acting in his absence, in the performance of his duty, shall not collect more than ten soles for his expenses during the first league, or more than two soles for each league thereafter. Notaries shall receive one-half the amount of these fees, and witnesses and arbitrators as may be agreed upon with those interested.

ART. 22. Foreigners may acquire and work mines in the republic, and in so doing shall enjoy all rights and be subject to all obligations of natives with respect to the ownership and working of mines, but they cannot exercise any judicial functions under the mining laws.

ART. 23. Building-stones, sand, salt, clays, slate, and other similar substances, shall belong to the owner of the land in which they are discovered. In working they shall not be subject to the mining ordinances, and in state or town lands they shall be common property, although corporations may cede to private individuals the right to work these

substances in conformity with the laws and dispositions in reference thereto.

ART. 24. The engineers of the municipal districts will be bound to prepare a practical course of mining and tunnel-driving in order to educate skilled mechanics, and in so doing shall be guided by the plan which shall be drawn up by the president of the mining college.

ART. 25. This law in no way refers to *salitre*, (raw nitrate.)

ART. 26. The executive will draw up as speedily as possible regulations for the collection and payment of the tax, and for the mining register, which shall be particularly lucid in all relating to the facility of affording proof of the payment or non-payment of the tax, and in designating the offices in which it shall be paid.

ART. 27. All mining ordinances and all laws in reference thereto which in any way are affected by this law are hereby repealed.

DEPARTMENT OF STATE,
Washington, June 23, 1877.

SIR: I have the honor to transmit herewith a copy of dispatch No. 213, of the 28th February last, from Mr. Seward, the minister of the United States to China, in answer to the circular instructions of this Department, of the 18th September last, to the representatives of the United States in foreign countries, requesting certain information for the use of the United States Monetary Commission.

I am, sir, your obedient servant,

WM. M. EVARTS.

Hon. JOHN P. JONES,
Chairman of the United States Monetary Commission, Senate.

[Inclosure.]

No. 213.] UNITED STATES LEGATION,
Peking, February 28, 1877.

SIR: I have had the honor to receive your circular-letter of instructions, dated September 18, 1876, with which you transmitted to me certain interrogatories addressed by the United States Monetary Commission of 1876 to the representatives of our Government in foreign countries, and also certain interrogatories to be communicated to chief officers of mints, &c.

Your instruction reached me at so late a moment that the date before which the commission was required to report to Congress has passed before I am able to comply with it.

The subject dealt with, however, is one of permanent interest, and I consider it my duty to transmit to you such information bearing upon the questions submitted as I am able to gather.

There is no "chief officer of the mints" in China, nor any other officer from whom answers to the second set of questions could be procured. I have been unable to get from the government a statement even of the relative values of gold and silver for a series of years.

I may remark that my search for the information called for has been attended with much difficulty. Statistics of all kinds, excepting those of the foreign customs for the last fifteen years, are almost absolutely wanting. In a country where we must make a long inquiry to learn whether the population may more reasonably be set down at two hun-

dred or four hundred millions of souls, it may be expected that data of a more refined sort will be lacking.

There is, moreover, no considerable library of the books which have been written on China to be found in Peking. Either London, Paris, New York, or Washington is better supplied in this respect. I have not, therefore, access to the information which is extant, and, having no time and but slight facilities for original studies, must content myself by transmitting to you the scattered data which I have been able to glean, with such remarks as are suggested by my readings and my general experience.

For convenience, the first and part A of the second question may be treated together. They are as follows:

1. Has any change taken place in the country to which you are accredited in the relative values of gold and silver during the past fifteen or twenty years?
2. What has been the nature and extent of such changes?
2 A. What has been the average annual value of pure silver in pure gold?

I inclose (Document A) a statement of the value of pure gold in pure silver in Peking for the years 1865 to 1873 inclusive, (Document B) a statement of the values for each month of the years 1874 to 1876 inclusive, and (Document C) scattered quotations for years prior to 1860.

The values given in the Shanghai part of Table C for the years 1849–'60 are taken from Rondot's article on Chinese weights and moneys in the Dictionary of Commerce and Navigation, published by Guillaumin, at Paris, in 1861, and may be relied upon. The earlier values are taken from the same article, and were doubtless derived from the statements of different writers on China. Their correctness may be questioned. The quotation for 1375 of 1 to 4 is so far different from that of 1285—1 to 10—that it may be regarded for that, if for no other reason, a mistaken one. I have found in the letters of Lecompte, a Jesuit who wrote about 1690, (London, 1697,) a statement that during his time "Europeans made a good market of gold, because in China a pound of it bears but the same proportion to a pound of silver as 1 to 10, whereas among us it is as 1 to 15."

The quotation of 1779, 1 to 17½, may also be pronounced of doubtful accuracy. Sir George Staunton, writing from this city in 1793, (Staunton's Embassy, vol. II, chapter I,) says:

In general the value of silver has borne a much greater proportion to that of gold in China than in Europe, except when an extraordinary demand for the latter by foreign merchants has increased the rate of it.

The influence of European demand recognized by these two accurate writers may render it certain to us again that the quotation of 1 to 10 at Canton in 1810 is quite wrong. At that date, in fact for a hundred years before, commerce of some magnitude was being carried on by foreigners at Canton, and the rate of silver and gold in Europe, say 1 to 15, would have necessarily determined the price. The values of 1821, 1844, and 1845, say 1 to 18, 1 to 17, and 1 to 16, may be right, but would appear too high. The values at Shanghai from 1849 to 1860 have been placed by me in contrast with the London prices for the same period. A considerable fluctuation is shown (from 16.5 to 12.8) as well as a considerable deviation from London rates, which during the same period varied between 15.21 and 15.57 only. The market at Peking from 1873 to 1876 has shown similar fluctuations and deviations. In fact, this might be expected, and might be referred, perhaps, to changes in the demand for silver. The demand for silver at Shanghai is affected by the operations of traders in tea and silk, and the need to have large stocks of the metal at given periods to meet their purchases. Exchange

on London has varied between 5*s.* 0½*d.* and 5*s.* 11½*d.* to the tael in the last twelve months, and while this extreme fluctuation has been, perhaps, unprecedented, it is an indication of the irregularity of the market.

As gold is not used as a purchasing medium, and is not much dealt in otherwise, it could not be expected to follow silver in all its fluctuations, and thus to preserve a steady ratio of value. It is, nevertheless, true that gold has followed somewhat closely, in more recent years, the general movements of the metal. Last year, for instance, it run up from 16 to 17.5, thus following at a later moment the course of the market in London. It is not to be doubted that the tendency of Eastern Asia is to place a lower relative value upon gold than has been done in Europe and America. This tendency in China has been a normal one, and not the result of legislation, for in one sense gold and silver are equally articles of commerce; that is to say, neither has been coined. The case was different in Japan, where gold and silver were both coined before the date of Commodore Perry's treaty. It was found then that, taking the stamped or face value of their gold and silver coins as a guide, gold was worth only four times as much as silver, (Alcock, II, 348, Williams's Commercial Guide.) But it is to be said that this result may not have been normal. It is understood that the government took possession of the produce of the native mines, and, as no exportation nor importation of the precious metals was allowed, was able to establish their value by decree.

Quotations of these metals in China and Japan must be received with the further reservation that one cannot be sure how far pure gold has been weighed against pure silver. I think that as a rule the gold of this part of the world is purer than the silver, and that, speaking generally, the quotations given show less favorably for silver than they should; that is to say, actually *pure* silver would be worth relatively more than the proportion exhibited.

In what has been written I have dealt more or less fully with questions 1 and 2, and with part A of question 2.

I pass now to B:

2 B. What metal or metals constitute the standard of value in such country; in other words, in what metal, gold or silver, or both, can debts of the largest sum be legally discharged? If in both, or either, state the legal relation or equivalent established between the two metals, and any change or changes which have been effected in such legal relation during the present century.

There has been not a little confusion among writers on Chinese subjects as to what is the monetary standard in this country. Sir George Staunton, from whom I have already quoted, says: "Silver is more properly among the Chinese a merchandise." And again, "The relative value of silver in the current coin varies according to the relative scarcity or plenty of that metal issued from the imperial treasury." Mr. Ellis,* who was attached to Lord Ahmersts' mission, in 1816, says: "The copper tchen (cash) is the only coin in actual circulation, the precious metals being received according to weight and fineness, being articles of barter rather than a circulating medium." Dr. Lockhart† states that "the price of silver rises and falls as copper or silver is scarce." Mr. Doolittle‡ repeatedly speaks of the "price of silver," and of "fluctuations in its value;" and Mr. Saintoe,§ statistical secretary of the imperial maritime customs, when describing certain fluctuations of the money-market at the port of New Chwang, declares that "copper

* Ellis's Embassy to China, London, 1818, p. 354.
† Lockhart's Med. Missionary, London, 1861, p. 84.
‡ Social life of the Chinese, New York, 1865, p. 145.
§ Customs Reports, 1871–'72, p. 25.

cash are the virtual standard, the monetary unit;" and again, "Silver has gradually but steadily risen in value, there having been an increase of about one-third in five years."

Copper cash remain now the only coin of China, as they were in Lord Ahmerst's time, and substantially throughout the whole history of China. It is perhaps not singular, then, that casual writers should speak of silver as an article of merchandise. It is so in a sense, as gold and silver have been in the United States during the period of the suspension of specie payments. It is no doubt true, moreover, that at times silver has been less plentiful than at other times, and that its relative value, as respects not only copper cash but articles of trade generally, has fluctuated in consequence. Again, silver cannot be said to exhibit at the same moment a uniform purchasing-power in China. There are agencies of foreign banks at a few ports only. The facilities offered by native banks for distant exchange operations are very limited. Movements of bullion between the open ports can be made readily by means of steam-vessels. Copper cash even can be shipped backward and forward. But there are no adequate facilities for this transportation of bullion, and more particularly of cash, to interior points. Throughout the empire it is the copper coinage which enters more largely into the ultimate operations of trade. The small producers and small consumers, whose combined supplies or demands make the great market, must necessarily pay and be paid in it. These facts have given rise to singular fluctuations of the markets, as the following statements will show. At Hankow, in the years 1863–'67, the following fluctuations in the price of the first crop Oopack teas were noticed:

	1863.	1864.	1865.	1866.	1867.
In silver taels	38	41	36	41	30.50
In cash	50,600	51,250	45,000	52,200	47,500

These figures are given by Mr. T. W. Kingsmill, of Shanghai, in a paper read before the Asiatic Society.* He makes an explanation of the greater range of the silver prices, which is as follows: For reasons which he declares, but which need not be repeated at the moment, there had been a decrease in the supply of copper cash throughout the empire. Hankow was, at the time, a new market, and when it became necessary for the native tea-dealers to provide themselves with cash with which to pay the small producers of the interior, they were obliged to buy the coin at varying rates in silver, say as follows:

	1863.	1864.	1865.	1866.	1867.
For 1,000 cash, taels	.75	.795	.80 to .805	.771 to .785	.65

The highest price reached was in 1865, but in fact the quotation of .80 to .805 was considerably exceeded, the price having run up to .885 at a later moment in the season, which, as compared with the lowest, shows a difference of more than 33⅓ per cent.

Mr. Kingsmill carries his argument still further, and shows that for some years prior to 1857 the tea-market at Canton opened at 31 taels, and that this price, at the prevailing exchange between silver and copper cash, amounted to 53,450 cash; the attending facts being that the Canton market is a dearer one, as being more distant from the producing districts, and that in the given period cash were cheaper than after the opening of Hankow.

These estimates would seem to indicate that, measurably at least, the cash coinage of the realm is a standard of value. It becomes interesting, therefore, to know what the cash really is.

* Copper Cash and the Tea Trade, Shanghai, 1868.

Mr. Kingsmill, in the paper from which I have quoted above, says:

The heaviest and least coined cash in common use are those which were issued from the mint of the board of revenue in 1735, their average weight being tsien 1.13, probably when new of a standard weight 1.15; but neither before nor since has the average weight equaled this. Taking carefully picked cash coined before 1820, such as are known in the market as "Hankow picked," the average weight is rather less than tsien 1.00. Slightly below this is the average of what is known as Chinkiang cash, weighing from .94 to .943, which formed the bulk of the shipments from that port in the years 1862–'66. Far below either is the ordinary currency in Shanghai. Taking a sample rather above than below what is known as fair quality, we will probably find it composed as follows:

Fair to good	500 in number.
Japanese and foreign	300 in number.
Debased of last two Emperors	200 in number.
	1,000 in number.

Weight has been reduced also, and gives an average of about tsien .78 only.

In 1874 Dr. Williams, who was then in charge of this legation, reported to Mr. Linderman, the director of our mints, the value of the taels of several of the open ports, and the exchange rates between copper cash and taels.* From his letter and its inclosures I have calculated the exchange, as between cash and the Haikwan tael, at the ports, as follows:

Foochow	1 Haikwan tael = cash 1,605.50
Swatow	1 Haikwan tael = cash 1,668.00
Amoy	1 Haikwan tael = cash 1,735.00
Ningpo	1 tael = 1,868.00
Newchwang	1 tael = 1,909.60
Chinkiang	1 tael = 1,960.00

During the same year copper cash was worth at Shanghai about 1,620 to the local tael, or 1,800 to the Haikwan tael.†

It must be considered that such a coinage is not a satisfactory monetary unit or standard by which to estimate values. The foregoing statements give, however, but a faint idea of the failures of this government in regard to the currency. A writer in the North China Herald, for 1871, states that "in the Lung dynasty cash were made so small that they were called 'geese-eyes,' and so thin that they would swim on the water." The Emperors of the dynasty in question reigned from 960 to 1127 A. D., so that the practice of debasing coin in China began at an early period.

Every one has read what Marco Polo‡ says of the vast issue of paper money by the Mongol Emperors, who reigned between 1280 and 1368 A. D. They found "rag-money" in the land which they had conquered, and while extending issues here, carried it also into Persia, where paper of the sort is still called by its Chinese name, "chiao." It has been said that they abused the power to make money in this way to so great an extent that the discontent of the people, due to this cause, did more than anything else to drive them from the throne of China.

Facts in regard to the currency for the last half-century will interest us more. The Commercial Guide, issued in 1863, states that the government have "within the last few years taken strong measures to suppress the private manufacture of cash, but in vain. The rapacity of the governors is strongly exemplified in its gross adulteration since the time of Kanghi, about one hundred and fifty years ago. It is debased in the coarsest manner with iron-dust, and sand, and presents a gritty appearance to the eye. In the reign of the Tao Kwang (1821–'51) it became

* Printed with Mr. Linderman's report for 1874–'75, page 88.
† North China Herald market reports, 1874.
‡ Yule's Marco Polo, London.

so bad that it would not remunerate forgers to counterfeit it. In the reign of Hsien Fung (1851–'61) iron cash and paper notes were substituted for the copper cash. The former were made of the full weight, and the larger coins, of 10, 20, 50, and 100 cash each, were made at Peking in 1853 and 1854. A few tons of the wretched emission were forced upon the people, but the attempt signally failed as a whole, and the iron cash remained at the capital in the hands of the officials. This iron cash was issued to the soldiers at Peking, and thrown away about the walls and by-ways, no one even thinking it worth the trouble of picking up."

The present currency of Peking gives evidence of the irregularities which have marked its history. By a curious fiction every piece of cash is called *two*. Without having been able to trace out the cause of this, I have supposed that when the cash in use at a given period had been debased in value about one-half, an effort was made to correct matters by issuing coin up to the standard, and ordering that each piece of the new should be taken as equal to two of the old. The new issues in time became debased and confused with the old until there was no recourse for the people but to call one cash two irrespective of the issue. Still later copper tokens of 10, 20, and 100 cash were issued. Some of these are still in circulation here. They were never, however, of standard value. In 1869 each 10-cash piece was worth about three of the single pieces of varying issues which were in circulation; 525, say, of the former and 1,500 of the latter were needed to purchase a tael of silver; 5,250 cash (525×10) of the new coinage then represented what, at the right standard, should have required only 1,000 cash, that being the assumed number to the tael. But, by the fiction of counting one cash as two, the 5,250 had again to be doubled. The result was 10,500 cash to the tael. Since that date cash have still further depreciated, and lately 17,000, nominal, (850 pieces of the 10-cash token coins,) have been needed to buy a tael weight of silver.

It will be seen that the depreciation of currency has gone further here than in the provinces. The average cash of the ports are worth, say, 1,800 to the Haikwan tael, while here 17,000 are needed to buy a tael of silver of the local standard generally used. This result is due largely to the fact that the people outside the capital have steadily refused the issue of a more debased sort, their efforts in this respect giving results of a far more uniform nature than we could have expected.

I have indicated what these results are in certain ports. It may be interesting to know that as between town and town in this part of China, extending from outside the walls of Peking, where the standard is different from that within, across the provinces of Chihli, Shanse, Shensi, into Yunnan, each considerable place appears to have its own standard. Here, too, an effort has been made to preserve a right relation between the cash in actual circulation and the assumed standard by counting so many to each hundred. It is likely that the results vary from province to province more than those which I have quoted for the open ports, for the reason that there is a less interchange of commodities, and that transportation through the interior must prove a serious item of expense.

Mr. Wylie, of Shanghai, who has made a study of the coins of the reigning dynasty, says that the standard purity of the cash of the seventeenth century was as follows:

Copper	50.00
Zinc	41.50
Lead	6.50
Tin	2.00
	100.00

Mr. Kingsmill, following those figures, estimates the cost of making 1,000 cash weighing 1 tsien each to be as follows:

	Tael.
Copper, at 15 taels per picul	0.46875
Zinc, at 5.20 taels per picul	0.12453
Lead, at 5 taels per picul	0.02031
Tin, at 15 taels per picul	0.02250
Shanghai tael	0.63609

Allowing 6 per cent. for coinage, (casting,) we arrive at about 0.675 tael as the price at which the Chinese government could issue such cash. They would be about 35 per cent. better than the cash used at Shanghai, which are generally worth more than the figures stated. The cash of 1 tsien, though above the average weight of the cash current at most of the ports, is below the standard of Kanghi's reign, say as 1 is to 1.15. Shanghai sycee is inferior to the Haikwan standard in about the same proportion. Cash of the Kanghi standard would therefore cost about 0.675 tael a thousand. One thousand cash of this standard is supposed to be worth a tael of silver. At this rate the profit upon the issue would be about 33⅓ per cent. From an honest issue of coin, therefore, the government would be a great gainer, if the people should accept it at the standard value. It is hardly to be expected, however, that they would do so unless the government should retire the debased cash now in circulation. This would be a matter of much difficulty, and it is not at all likely that it would be attempted.

We find, therefore, these facts existing:

1st. That cash vary in weight and fineness.

2d. That their value as compared with silver varies from city to city and from province to province.

3d. That they are not intrinsically worth more than 70 per cent. of the value at which they are usually exchanged against silver.

When we turn from this statement of the unsatisfactory character of the copper money of the empire to deal with the facts regarding the silver in use here as money, we meet again with much that is singular and confusing.

It has been indicated that silver passes by weight, and it is known to all who have read anything about currency matters in China that there is no standard of weight uniformly recognized throughout the empire in the ordinary transactions of the people. It is known also that there is no invariably-accepted standard of the purity or touch of silver. In any given case it must be known not only what is the weight and fineness of the bullion, but also what are the standards of weight and fineness which are recognized at the given place.

Taking the Haikwan tael for the purpose of comparison, the customs have adopted the following rates of exchange between it and the taels of the several ports named below:

Newchwang	100 Haikwan = 108.50 local.
Tientsin	100 Haikwan = 105.00 local.
Chefoo	100 Haikwan = 104.40 local.
Hankow	100 Haikwan = 108.75 local.
Kinkiang	100 Haikwan = 106.31 local.
Chinkiang	100 Haikwan = 104.21 local.
Shanghai	100 Haikwan = 111.40 local.

At these ports the duties levied by the customs are payable in Haikwan taels; but, as there is no silver of the Haikwan standard in use, the silver of the port is accepted instead at the rates mentioned above.*

*Manuscript memorandum by Mr. Hart, inspector-general of customs, January 24, 1877.

The rates as stated agree with those which I have received from the consuls at the several ports named. The consul at Tientsin says, however, that the "local tael is generally reckoned at 1.03, but in the payment of duties the rate of 1.05 has been fixed upon." I have information also to the effect that the Russians are allowed to discharge their duties at the more favorable exchange, while all other foreigners and Chinese have to pay at the other. This matter is now receiving attention here.

Mr. Hart gives no quotations of the exchange south of Shanghai. From letters received by me from our consuls at the southern ports in 1875, I have derived the following results:

Ningpo	100 Haikwan = 105.83 local taels.
Amoy	100 Haikwan = 110.00 local taels.
Tamsui	100 Haikwan = 110.00 local taels.
Taiwan	100 Haikwan = 111.37 local taels.
Swatow	100 Haikwan = 110.00 local taels.
Canton	100 Haikwan = 110.40 local taels.

At Foochow the consul says that two commercial taels are used—one by the foreign, the other by the native, merchants; 100 Haikwan taels are equal to 100.50 of former, and 101.45 of the latter.

At Shanghai two taels besides the local and Haikwan are found. At Foochow and Swatow there are as many as three others—say five in all at each port. One of these is found at several, probably at all, of the ports. I refer to the Kuping, which is believed to be the scale of the imperial treasury. It is not constant, however, with the Haikwan or foreign customs tael, as the following table will show:

At Tientsin	100 Haikwan taels = 103.40 Kuping.
At Hankow	100 Haikwan taels = 101.01 Kuping.
At Shanghai	100 Haikwan taels = 101.65 Kuping.
At Foochow	100 Haikwan taels = 101.65 Kuping.

The data given above are taken from Mr. Hart's memorandum and from letters addressed to this office from Shanghai and Foochow in 1874, which are published with Mr. Linderman's report for 1875. The Tientsin quotation gives further evidence of the overvaluation of the Haikwan tael at that port.

At Peking, in 1863, Dr. Williams found four scales weighing, respectively, 548, 541, 552, 539, and 579 grains troy.* A Mexican dollar, weighed on different scales, ranged from 6 mace 9 candareen to 8 mace 2 candareen.

It cannot be said, however, that there is no standard weight in China. Doubtless more than one Emperor has done here what King Edgar did in England, and Canton would appear to have taken the place of Winchester as a depositary of the standard scales. At least the scales used there for weighing sycee do not seem to have varied essentially for the last one hundred and fifty years, as will be seen from the following table of the weight of a catty in grams in different parts of this period:

In 1710, Williams	601.104
In 1779, Callas	601.328
In 1810, Milburn	601.190
In 1828, Thompson	600.658
In 1845, Rondot	600.432
In 1847, Carvalho	601.112
In 1857, Rondot	600.432

The weight of a tael, Haikwan standard, is supposed to be 1 ounce 4

* Commercial Guide, p. 275.

pennyweights 3.84 grains troy—say, 579.84 grains, (see Mr. Hart's memorandum;) 579.84 grains are equal to 37.578 grams. As there are 16 taels in a catty, the latter would weigh by the Haikwan standard 601.248 grams, which is above the mean of the weights of the catty given above. It is possible that the weight of the Haikwan tael given by Mr. Hart is somewhat excessive. An assay of the trade-dollar was made at Canton in September, 1873, at which $100 weighed 72.68 taels. At this rate the tael would be as 72.68 : 100 :: 42,000 (the weight in grains troy of $100) to the answer—say, 57,787. (See Mr. Seward's letter to Mr. Linderman, published with the report before mentioned.) An assay of the Hong-Kong dollar was made in the same city in 1866, (October 24;) $100 weighed 71.92 taels. Their actual weight in grains troy should be 41,660. This would make the tael 578.42 grains troy. It is singular that the trade-dollar, which weighs 4 grains more than the Hong-Kong coin, should have turned out about 4 grains less than its rival.

Rondot, from whom I have taken the above data, gives also the following in regard to the weight of the treasury-scales at Peking:

	Grams.
1648	602.160
1680, Lecompte	596.044
1769, Clerc	596.800
1822	595.345
1841	595.135

And also for the same scales the following:

Soo-Chow, 1797, (Callas)	598.976
Shanghai, 1857, (Wylie)	596.800

While, therefore, many different scales are found in China, and the confusion which results seems at first sight very great indeed, there is a scale which for more than two hundred years has not varied sensibly from the standard of that distant date, and it may be supposed that the Chinese understand this fact, and make suitable allowance for the variation of local scales from this standard.

The balances used by the Chinese in weighing silver are more or less well made. Those oftenest seen in the shops have a brass beam suspended from a standard and two basins carried by brass chains. It cannot be said that they are very sensitive or accurate. Others of a far finer sort are fabricated like our steelyards. The yard is made of ebony or ivory. The basin is of brass, and is suspended by silk threads. A silk thread is also used to suspend the yard. They are extremely sensitive, and for ordinary purposes may be considered entirely satisfactory, but would be rejected beyond doubt in the more careful operations conducted in the mints of Europe and America.

In the same way I suppose that Chinese assays answer the purposes for which they are conducted here under the ruder system which prevails in the valuation of silver. Mr. Billequin, professor of chemistry in the Peking University, says that in this part of the empire borate of soda (borax) is used without lead, or with lead when the proportion of alloy is greater, for refining purposes. The process by cupellation or acids is not known. Dr. Lockhart* describes the process of refining silver at Shanghai as follows:

> The crucible is placed in a stand in the furnace over a fire of charcoal urged by bellows; the silver is put in and covered up by a tile; charcoal is thrown over all and urged to a white heat, which is concentrated by tiles placed around. As soon as the silver melts, pieces of lead are thrown in and a quantity of niter, which causes ebulli-

* Medical Missionary, p. 83.

tion and frothing from the crucible, into which fine white sand is then cast, and the vitreous scum that rises to the surface is removed by a pair of pincers, which are stirred round and round until all the scum disappears. The workman then holds his pincers over the silver to see if their reflection be clear and distinct. If not, nitre and sand are again used. When at length the reflection of the pincers is bright on the surface of the glowing silver, a piece of white oxide of arsenic is thrown into the crucible in order to give splendor, as they say, to the metal.

I have mentioned the assay of the trade-dollar at Canton in 1873. The fineness of the silver of this coinage was declared by it to be .8961. This result cannot be considered satisfactory, as it is a wider deviation than is allowed in any country for toleration or remedy. It is so close, however, that I confess I have made a question whether the assayers did not have regard to the standard fineness of the coin, which is declared, if my memory is not at fault, on its face. I have also mentioned the assay of the Hong-Kong dollar. I quote the result as it was stated at the time in a minute published by the colonial secretary at Hong-Kong, (November 13, 1866:)

	Taels.
One hundred Hong-Kong dollars weighed before being melted	71.9.2.0
The same, after having been melted with an equal weight of lead, refined, and cast into shoes of pure sycee-silver	64.3.3.0
Loss	7.5.9.0
Value of 100 taels' weight of Hong-Kong dollars, according to the above results	89.4.4.4
Add allowance for silver remaining incorporated in the lead, calculated at	5.0.0
Resulting standard value in sycee	89.9.4.4

The above is admitted to be equivalent to 90 taels, or a standard of 900, and hence 111.11 taels in Hong-Kong dollars are equal to 100 taels of pure sycee.

In this assay, the Hong-Kong coin, which is actually of the same fineness as the trade-dollar, is set down at the fineness claimed for it, 900, while the trade-dollar, as I have stated, is below its fineness, being declared .8961 instead of 900. The result of this underweighing and underestimate of fineness would appear to reduce the value of the trade-dollar to an extent which merits attention, especially as it was made of greater value than the old American dollar and the several issues of the Mexican mints with the especial object of making it acceptable in China.

After the assay of 1866, the governor-general at Canton issued a proclamation directing that the Hong-Kong dollar should be accepted at 111.11; that is to say, that 111 taels 1 mace 1 candareen, by weight, in Hong-Kong dollars should be accepted as equal to 100 taels Haikwan. After the assay of 1873, the same officer directed that the trade-dollar should be accepted as equal to the old Mexican dollar; that is to say, at 111.9. This is a difference against our dollar of about $\frac{8}{10}$ of one per cent. The Hong-Kong dollar weighs 416 grains, and is 900 fine. The trade-dollar weighs 420 grains, and is also 900 fine.

The allowance for residuum of silver in the lead used in the assay of 1866 so nearly compensates for the error which was shown in the assay that it may be suspected that it was given to conceal the lack of skill of the assayers. A professional assayer of the Hong-Kong establishment was present and made an assay of $100 before them, showing, of course, that the metal was really 900 fine. The report states that "the Chinese officials were highly interested in the skill displayed" by this gentleman.

While there is reason to doubt the ability of the assayers of Canton to give more than approximately correct results, I doubt whether any

others so skillful will be found in the empire. Chinese officers are called "kungkoo." That the profession is considered a difficult one may be inferred from the fact that assay establishments are not found in all the cities of the empire, not even in many important ones. Professor Billequin is of opinion that very little silver is refined in this city. In a letter written by Mr. Knight, our consul at Newchwang, to Mr. Low, in 1870, the statement is made that there is no "kungkoo" at his port; that "any one who chooses may fabricate ignots of silver, and that the only check on such persons is the fear of losing a reputation for honesty."

The commissioner of customs at Chefoo, writing under date of March, 1870,* states that "serious inconvenience, delay in the transaction of business, and frequently losses, had resulted to foreign merchants in consequence of the quantity of impure sycee which had found its way into circulation, that with a view to remedy the evils existing, a kungkoo had been established, and that the country buyers thus deprived of a part of their wonted profits had refused to recognize the institution, and that the result had been a suspension of business with the interior."

The commissioner at Hankow, writing under date of January, 1865, says:†

> In the early days of the port, the demand for sycee was so sudden and extensive that Shanghai was unable to supply standard sycee in sufficient quantities. It then arose that sycee of inferior quality was transmitted to this port, and on its being found that the adulterated silver was accepted here as equivalent to standard, the practice, originally exceptional, became the rule, and sycee depreciated to the extent of 2, 3, and even 4 mace per shoe was regularly manufactured for the Hankow market. About two years ago an attempt was made to establish a *kungkoo* or assay-office, which was unsuccessful, and the failure was immediately followed by an enormous increase in the depreciation of silver. Chinese, knowing that in Hankow the sycee would be submitted to a universally-accepted assay, and would be generally recognized as a medium of exchange, opened smelting-shops in which sycee, impure to the extent of 2 or 3 mace per shoe, ($\frac{1}{10}$ to $\frac{6}{10}$ per cent.,) was debased to the extent of 1.2 taels per shoe, (say 2½) per cent., and in some well-authenticated cases to even a greater extent. It was not, however, until the present month that an assay-office, duly recognized by the Chinese and consular authorities, was opened. Bankers and others, in prospect of this, became desirous of ridding themselves of their stock of impure sycee on any terms, and large quantities were accordingly reshipped to Shanghai and the other river ports.

It will be noticed that this serious adulteration of silver was synchronous with the fluctuation between sycee and copper cash reported by Mr. Kingsmill, and, beyond a doubt, the changes noticed by him were in part due to it.

In the absence of assay-officers, the Chinese rely upon the marks which have been placed upon the ingots at places where there are assayers, or upon the marks of bankers and melters, as at Newchwang, or simply upon the appearance of the metal. Lecompte, writing in 1690, says, what is generally true at this day:

> They are so expert in guessing at the goodness of any piece of silver by looking on only that they are seldom mistaken, especially if it be melted after the manner practiced there. They know the goodness in three ways: by the color, by several small holes which are made in it by the melting-pot, and by divers small circles which the air makes on the surface of the metal when it cools after melting. If the color be white, the holes small and deep; if the circles be many, and those close and very fine, especially toward the center of the piece, then the silver is pure; but the more it differs from these three qualities, so much the more alloy it has.

From all that has been written, it will be understood that, although there are many different scales or standards of weight in use here, and although the silver which is current is not of uniform fineness, the Chi-

* Customs Reports, 1869, p. 13.
† Customs Reports, 1865, p. 3.

nese are able, in one way and another, to reach a fair degree of accuracy in passing the metal for the purposes of money. In point of fact, without being coined, it has come to assert a value for these purposes which the coined copper of the empire has not been able to assume.

That silver is the real standard of value is well understood by the Chinese, although it has not been convenient for the government to make a formal declaration to this effect. Properly the cash is equal to the one-thousandth part of a tael weight of silver.* With the people it passes, however, for such part of a tael as may be decided upon by them in view of its intrinsic value and of its convenience as a medium of exchange. The government, recognizing its own failure to keep the coin up to standard, has accepted the action of the people, and receives payment of cash on account of taxes only at the usual exchange of the markets. I am not able to declare, however, that this is true without exception. Dr. Williams says:† "The government is determined that its coffers shall suffer no loss by the depreciation of the currency, and hence imperial taxes and dues are required to be paid in silver;" and again: "The government bankers indemnify themselves for the depreciation by making the tax-payers add so much for loss when exchanging cash into sycee." The dues collected by the customs on foreign trade are always in silver, and it is understood that the revenue sent to the capital is transmitted either in silver or in bankers' bills.

But what may be considered still more pertinent is the fact that the value of copper is estimated in silver. The Penal Code provides‡ that "no soldier or citizen shall use in his house any utensils of copper, saving such as are enumerated in the code, and that any such in excess of the allowance shall be given over to the government at the rate of 7 mace (in silver) for each catty, or as much more or less as the state of the market may authorize." By another regulation, it is directed that a certain quantity of Yunnan copper shall be sent to Peking annually, and that it is to cost 9 taels and 1 mace in silver for each picul.

In dealing with this part of the subject, I have written somewhat fully, in order to indicate the imperfect state of the currency in such manner that the facts may be clearly understood, and to give point to what I shall say of the need which exists for the introduction of certain reforms. This I shall do later on, although it may not be strictly within the scope of the present inquiry.§

I pass now to part C of question 2, "What quantity of gold and silver exists in China in coin or bullion?"

It must be admitted that when one attempts to answer this question he will be able to deal only in general statements and speculations, and that it is not possible to give an exact report, or even one that approximates to exactness. The recent contest in Germany over the question of the amount of silver coinage to be demonetized is in point. A writer

* Commercial Guide, p. 269.

† Staunton's Penal Code, sect. cxviii.

‡ Staunton's Penal Code, sect. cxviii.

§ Since writing what precedes, I have fallen upon the returns of certain assays of silver made at the Osaka mint in Japan last year. I am informed that the bullion was imported from Canton, and was of the Haikwan standard. On the 9th of June, thirty-five ingots were assayed, thirteen of which are set down at .9860, seventeen at .9855, two at .9850, and three at .9845 fine. On the 13th of the same month, fourteen were assayed, resulting as follows: two at .9865, eight at .9860, two at .9855, and two at .9850. This would seem to indicate that silver of the Haikwan standard at Canton does not depart much from a fineness of .9855, and speaks well for the melting establishment there.

in the Edinburgh Review* tells the story of the battle in graphic language; how the statisticians maximized, the ministers minimized, the deputies criticised, and the bankers disbelieved every estimate. Silver coins to the extent of $450,000,000 had been issued since 1760, and the question was what amount was probably in circulation when the coinage change commenced. In analyzing the calculations made, the committee of Parliament on the depreciation of silver state that they were based "partly on theoretical inferences as to the extent to which the causes which diminish any currency—such as export in the ordinary course of trade, export by means of emigration, export in consequence of war indemnities, melting down for manufacturing purposes, the ordinary wear and tear of coins, the actual loss of coins—may have, as a matter of fact, diminished the total of silver in circulation; partly, again, on the facts revealed in the series of coins withdrawn in the earlier part of the demonetization process, and partly on evidence afforded as to the actual amount in circulation, by returns, stating the stocks held by banks, savings-banks, public and local treasuries," &c.

The writer in question is able to reach an opinion upon a consideration of what had been put forward that the surplus silver coinage of Germany is likely to prove more than $40,000,000 and less than $150,000,000. This is the result arrived at in a country where currency matters are treated with scientific accuracy, so far as this is possible anywhere, and after the process of demonetization had gone so far as to give much light upon the problems. Of course, far greater range of opinion would have been possible in dealing with the problem of the quantity of silver existing in Germany in the form of bullion, plate, &c.

While it is true that the discussion of the question how much silver exists in any of the states of the west would take one greatly into the regions of speculation, it is more true here. There are no sufficient statistics of the native production of silver, or of the imports or exports of it; one can form no accurate opinion as to the quantities of the metal "taken abroad by emigrants," saving that it is not likely to have been considerable, and would have been far more than counterbalanced by that brought back by the returning emigrants; the "war indemnities" paid by China are known, but would not be considered elsewhere so great as to effect very seriously the general question; there are no returns by manufacturers or of the manufactures of silver exported; there are no silver coins, and, as a consequence, there is a total absence of the data of various kinds which might be derived from the operations of the mints; there are no returns from banks or treasuries.

It will be idle, therefore, for me to endeavor to make any estimate of the silver which may exist in China. The following remarks are offered, however, as having a bearing upon the question. They are of the most general nature, and are only advanced because they may, perhaps, throw a degree of light upon the subject under which it may be studied to greater advantage by those who are anxious to know how the value of silver is affected in a general way by the Chinese demand.

It would appear at first sight that this vast empire, whose population is numbered by hundreds of millions, must have a great capacity to absorb that one of the precious metals which is used here as currency, and one can well understand that a member of a western state when approaching a consideration of the matter might feel overwhelmed by the magnitude of the figures into which he would be launched by a *per-capita* calculation of the result to be expected, which should be founded upon the experience of the use of the metal in western countries.

* October, 1876.

Upon a close study of the matter, such person would find great reason to modify his first rough estimates. He would notice primarily, and as a matter of fundamental importance, that a people so numerous do not exhibit in any direction the magnificent achievements which might naturally be expected from them, and which would mark well-developed conditions.

Take, for instance, the foreign trade. The exports of China to other countries by sea in the year 1872 amounted to about $103,000,000 gold, and the imports to about $105,000,000. The exports and imports of the United Kingdom in the same year were about $1,500,000,000 and $1,700,000,000, respectively. The exports from the United Kingdom to the United States alone exceed by nearly 100 per cent. the total exports of China. The exports and imports of the United States for 1875, as given in Appleton's Cyclopædia, were respectively $559,000,000 and $532,000,000. The foreign trade of Belgium compares with that of China as 7 to 4, while the population compares as 1 to 60; that of Switzerland, ice-bound and mountainous, with a population of two and a half millions, compares as 17 to 23.

It may be supposed, however, that China has a vast internal commerce, but such is not the case; at least its magnitude is not so extensive as those who judge rudely by returns of population and general statements would believe. She is very favored, so far as natural water communications are concerned, and she has many canals, but in neither direction are the facilities for the domestic interchange of commodities at all adequate. The Yangtze is navigable for sailing-craft a distance of 900 miles, and then rapids occur which can be overcome only with the greatest difficulty by boats of a few tons burden. The Yellow River is almost useless for navigation. The Peiho is an inconsiderable stream, according to western ideas. Those which debouch on the southern coast near Canton are more important, but they do not reach to the heart of the empire. As compared with the water communications of the United States, those of China might almost be said to be insignificant. In the matter of canals, it is to be remarked that those of the United States are superior to those of China for all the purposes of an extended inland trade. They have been constructed to supplement natural water communications, and to enable distant vast districts to send their products to market in an economical and safe manner. Those of China are almost entirely local; that is to say, they exist in alluvial and low-lying districts, and form the means of passing through these only. The one exception is the Grand Canal. This was constructed to afford transportation to the remote capital of the empire rather than to prove of general advantage. The boats used are propelled by sails or drawn by men, and are generally of only a few tons burden. There is not one canal-lock in the empire of which I have ever heard.

While the rivers and canals of the empire do not afford adequate means of communication, it may be said, further, that no attempts in the way of road-construction worthy to be mentioned have been made. In the north of China rude carts are used, but no good roads can be found, and throughout a great part of the region pack-animals only can be relied upon for transportation purposes. In the south of China, whenever the water-courses fail, men take the place of the pack-animals of the north. Railroads are, of course, unknown.

Imperfect as are the means of communication, according to the standards now recognized in western countries, China has the opportunities for a much larger internal trade than actually exists. The government has done little to facilitate the movements of commerce, but it has done

much to hamper and prevent them. On all the highways, canals, and rivers of China exist barriers or tax-stations, and at these are levied imposts more or less burdensome. One payment does not clear the goods, but the dues accumulate upon them as they go on. The more remote and inaccessible the district, the more is the burden which is laid upon all that it produces and sends out, and upon all that it draws from abroad. The taxation of goods and produce is not confined, however, to those in transit. The towns levy octroi, or, rather, the officials in the towns do so. A bale of cotton goods imported at Shanghai pays first an import duty; when it passes into the hands of a native merchant it pays an octroi; when it leaves the port for the interior, it pays other dues at each station, and when it reaches the town where it is opened and exposed for sale, it sometimes pays a further tax. The result of all this is, that the trading propensities of the people are checked, and the normal use of the vast material wealth of the empire is prevented.

In the minerals, particularly in coal and iron, the empire is rich, but the exactions of the government, imperfect means of transportation, and taxation have so far repressed mining industries that they do not exist on an extended scale. It would astonish the world to know how little coal is used in China, how little skill is exhibited in the working of iron, and how few are the uses to which the metal is put as compared with those in the west. The northern cart has no iron about it, saving the tire upon the wheels, and the southern boats may be held together by wooden pins. The bow and arrow is still used in war. The plowshare is tipped only with iron. There are no iron fences, pavements, or shop-fronts; there is no machinery. In the manufacture and application of the metal for all the varied purposes of life, China remains to-day where she stood a thousand years ago, and where Europe was in the Middle Ages. In the working of copper and of compositions of copper with tin, lead, and zinc, the Chinese are more skillful, but with these even they reach only comparatively crude results.

Undoubtedly there is much wealth in this empire, and yet when we come to apply the usual tests, and more particularly that of the extent and beauty of the houses in which the people live, and the elegance and variety of the furniture and fittings to be found in them, we must conclude that, however great may be the wealth, it is not displayed in these directions. Throughout China the houses of the common people are one-storied and low, with floors of earth, and no adequate division and separation of apartments for the members of the family. Those of the better people are sometimes extensive, in a rambling fashion, with an elaborate display of carvings in wood and stone. The furniture, however, is almost never elegant or even comfortable according to our ideas; the chairs are straight-backed benches, the floors are uncarpeted, stoves and fire-places are unknown. In porcelains and silks the Chinese show a considerable development, and yet they are not able to compete in these even with the factories and looms of Europe. In point of fact, for whatever reason, the Chinese do not seem to have the same wants as the people of western countries, and as a consequence the demand for a thousand articles and things used in the west is unknown here.

The condition of China is reflected in the movements of vessels along the coast and upon the rivers of the empire. The commerce between the north of China and the south by sea does not employ so much as one steamer a day, clearing from the three ports of Newchwang, Tientsin, and Che-foo. That between Hankow and the middle Yangtse, the emporium of Central China, and Shanghai, which is the sea-port and distributing-place for the north, the south, and for foreign countries,

seldom requires more than one large steamer in two days. Between Shanghai and Ningpo, cities one hundred and fifty miles apart, with an aggregate population of a half-million souls, one steamer in two days does the work for a considerable part of the year. There is, besides, the trade carried on in native vessels, but between the cities mentioned this has come to be inconsiderable of late years.

It may be supposed that Chinese frugality, while it limits all the movements of general trade, may still give good results so far as the wealth of the empire is concerned; that the produce which they send abroad in quantities which are not inconsiderable must give them in return an abundance of the precious metals, and that these are hoarded. But the fact is, again, that the flow of the precious metals, or, say, of silver, has not been toward China, as a rule, for a long time past. A few years ago it needed all the tea which she exported, and a half of all the silk in addition, to pay for the opium which she imported.

In former years the "leaking of silver from the Inner Land" was the text of frequent proclamations issued by the commissioners of China at Canton. It has been alleged that it was this fact which more particularly aroused hostility toward opium and led to the war of 1842 between China and England. From that time until 1853 the drain of silver was very great. But in that year about twelve million dollars were brought to Hong-Kong. Dr. Williams attributes this change to the disturbed state of the empire in consequence of the outbreak and rapid development of the Taiping rebellion, but adds that for the next few years the importations of silver were much less, say four millions a year. In 1859 the flow toward China was more decided, but it is likely that the increased supply went on to Japan, which had just been opened to trade. Following 1859 were the years of the wars between England and China, and of a new outburst of the rebellion. Although without statistics for this period, I am inclined to believe that a variety of causes must have contributed to an influx of silver down as late as 1864. There was, first, the expenditures of the allied forces. There was, further, the low demand for foreign goods on account of the war, and the operations of the insurgents, against which, however, is to be set the decreased production of China, notably of silk, the chief region of production being completely overrun. There was, again, the cotton famine in Europe, which cut off the consumption of cotton goods and led to an exportation of the raw material. And, lastly, there was a speculative spirit on the part of foreigners, due, no doubt, in part to the abundance of silver, which led to the establishment of several banks and the importation of money attracted by the apparent demand for it. In 1865, however, the tide would seem to have turned, and since then the money market has been hard. In that year the imports at all the open ports amounted to 55,000,000 taels, and the exports to 54,000,000. This was exclusive of opium landed clandestinely, and which amounted to the value of, say, 7,000,000 more. In 1866 the imports were 67,000,000 against 52,000,000, exclusive of smuggled opium. Including opium, the balance against China was not less than 20,000,000 taels, or $30,000,000, a large sum compared with the total of her trade. In the eleven years from 1865 to 1875, inclusive of the latter, the exports of China were 681,336,535 taels, and the imports 715,654,216 taels, which leaves a balance against China of 34,317,681 taels. It is estimated that opium was smuggled into China during these years to the value of 100,000,000 taels, so that the sum of 134,317,681 taels, more or less, is the aggregate amount of the trade against China during these years. The foregoing table includes the export of teas to Russia via Siberia, (Kiachta,) but

does not include those which goes via Shanse, nor the Russian goods which find their way into China via Siberia. At least one million of taels balance in favor of China on this trade should be allowed annually. There is no trade on the coast with foreign countries, saving that at the open ports, which would sensibly affect the results given above, and there is no overland trade with bordering states which may be supposed to yield any considerable profits to China. The trade with Annam and Burmah, for instance, is next to nothing, that with Thibet is equally insignificant, while that with Central Asia, owing to the disturbed conditions now existing, must also be pronounced unimportant. With Mongolia and Manchuria a bartering commerce is carried on which may be supposed to balance itself.

It may be granted, then, that the Chinaman is frugal and has few wants, and that the exports of his country in tea and silk are considerable. But it may be said on the other side that foreign countries have had something to do to supply such wants as hers. He will have opium, and while he is growing the drug in increasing quantities, his demand for the foreign article continues unabated. He may be content to dress in cotton and to export silks, or rather the raw material, but he takes in exchange cotton goods woven in the looms of Manchester. He possesses coal-mines of unexcelled extent, but he has for years been unable to supply the steamers on his coast and rivers with fuel, and it has been brought in great part across the seas from England, America, and Australia. He possesses iron deposits of great wealth, but all the superior articles manufactured from the metal which he uses are brought from abroad He imports petroleum from Pennsylvania and lumber from Oregon.

Of late years the tendency of trade is more favorable for China. The actual figures for 1875 are as follows:

	Taels.
Net imports	67,803,247
Opium smuggled, estimated at	2,093,357
Total taels	69,896,604
Exports	68,912,929
Exports via Siberia, excess over imports	1,000,000
Total	69,912,929

Which shows a small balance in favor of China. She exports more silk and tea, and her importations of opium have not risen. She is at peace within her proper borders, and there is a manifest improvement in the condition of the people everywhere, almost, as compared with twelve years ago. But she is still waging an expensive war in the northwest. To supply her needs in this direction, she has lately, for the first time, sought loans from foreign bankers. She has launched into the creation of a system of coast-defense, of arsenals, and of a navy. During the time of internal war, foreigners were disposed to treat the eccentricities practiced by her in the taxation of foreign goods with leniency, unwilling as they were to turn a deaf ear to her plea, that she was struggling under extraordinary difficulties. She has been at peace for a decade, and the gross amount of such taxation is probably greater than ever before, while at the same time nothing has been done to relieve the purely domestic trade from similar burdens. She is developing a considerable carrying-trade in vessels of foreign construction, or rather wresting it from foreigners, whose enterprises, conducted on normal and sound principles, have ever been met with hostility by her, but she is obliged to support

the steam-navigation enterprises of her own people by subsidies and favoritism.

But while the general conditions existing here are such as I have described, it is to be said further that the facts remain that the population is vast, and that it is made up of industrious and frugal people. The Chinese are not barbarous, and they are not mere tillers of the soil or shepherds. They are farmers, artisans, and traders. There are great classes among them who possess inherited wealth, and there are other classes given exclusively to letters and to government. That they are orderly all the world knows. Their monasteries and temples are numerous and the class of priests large. They have no lawyers, and the fact may be held to indicate a radical defect in the political constitution and an absence of those regulated conditions without which great organizations for industrial purposes cannot exist; but the government extends its functions among all classes in a minute way, and through it and their own associated efforts under it or against it the people live in much security. They have, in fact, passed through many of the defferent stages in national experience, and have attained to settled conditions. If they do not know what luxury is, as it is known in the west; if their ideas of comfort are very different from ours, they do yet attain to what they consider luxury and comfort; and the fact that their standards are loose may tend to equalize conditions to the great benefit of the masses. Their methods cannot be condemned entirely, when it is true that a Chinaman can marry and rear a family, giving to them all sufficient food, clothing, and shelter on an expenditure of a few, say, ten, dollars a month.

Having got beyond the ruder stages of national and social life, they have, of course, left far behind the time when they interchanged products by way of barter. One sees as little of this, indeed, in China, as he would in England or America.

Whatever is bought or sold is exchanged against paper, coin, or bullion, as certainly here as there, and this fact implies that the currency is extensive.

I have pointed out already that silver and cash are used as currency in China. In dealing with the quantity of silver and cash, it is necessary to add some remarks as to their relative place in the economy of the currency, and also to speak of the use of paper among Chinese.

After what has been said, it will be understood that the transactions of the masses of the people are very small, and that a household may manage their exchanges without having occasion to use the precious metals at all. We have seen, even, that the relative demand and supply of cash has had much to do with determining the cost of tea in the shops of London and New York. It must be held, in view of these facts, that the copper currency of China occupies a place in their system far more important than the subsidiary coinage of western countries. Its extensive use and the fluctuations between it and the rarer part of the currency, silver, have, indeed, given rise to the statements which I have quoted, that cash are, in fact, the standard of value.

Paper comes in, however, for a very important place in China. There is no system of paper money sanctioned by the empire, by general stipulations. Currency of the sort, that is to say, circulating notes, may be classed at the present day as shinplaster issues. Probably 95 per cent. of the business of the people in Peking is transacted with paper. In some cities, as at Shanghai, it is never seen. Foochow, on the other hand, has long enjoyed prominence in the use of paper money, and it is likely that the system followed in that city and here will be found in many

others. The Abbé Huc says that bank-notes, payable to bearer, are in use throughout the empire, and that they are issued by the great houses of business and accepted in all the principal towns. Perhaps, however, the use of bankers' orders is more common. At Shanghai by far the greater portion of the merchandise purchased by Chinese from foreigners is paid for in notes drawn by the native bankers on themselves, and having usually ten days to run. It may be presumed that this is the system in vogue among themselves, and that it is pursued elsewhere. Bills of exchange drawn by the bankers of one city on those of another are also well known. At times a considerable part of the revenue transmitted to this city from other parts of the empire has been sent up in this way.

It may be assumed, then, that paper in its different forms takes the place to an extent of silver and copper in the transaction of business, and that it does so in a measure which is greatly influenced by the fact that the copper coinage is exceedingly bulky and inconvenient to handle in large sums, and that silver is not coined and can be used as money only with a degree of difficulty.

It follows from what has been said, 1st, in regard to general conditions in China; 2d, in regard to the course of trade, and, 3d, in regard to the currency, that the quantity of silver in China is not so great as might be supposed, and there is no such demand for it here as to greatly affect the silver-markets of the world.

Undoubtedly there has been a great flow of the metal to the east, and great quantities have been absorbed.

It is not this country, however, which has contributed chiefly to the movement, but British India. The empire in Asia, conquered by England, numbers nearly as great a population as China, while on the other hand its conditions in some directions are European. It has a currency of coined gold, silver, and copper. It has railways and modern canals. It has European banks in every considerable city. Its taxation is based upon advanced principles. Its revenues are honestly administered. Vast districts are being cleared from the jungle and brought under cultivation. As a consequence of good government and a long-continued peace, the people are increasing in wealth, and all the conditions which affect the comfort of life have improved greatly. Doubtless all this, brought about by an alien race, has not been accomplished without expense to the native population, but it is easier to sustain a government which is honest and which discharges its duties impartially and efficiently than one which is inefficient and dishonest.

The result of British control in India in matters of currency stands out in striking contrast with the failure of the Chinese in this direction.

The British India coinage began just one hundred years ago. What it has amounted to in the gross since I have not been able to learn, but the report of the committee of Parliament on the depreciation of silver states that one hundred and sixty-seven millions of silver, exclusive of recoinage, were issued between 1835 and 1869. In the eleven years from 1864 to 1874, the excess of the exports of India over the imports amounted to about £237,000,000 sterling. During the same years, as we have seen, the imports of China exceeded the exports by 134,000,000 of taels, or, say, £45,000,000. The figures will serve to explain the estimate of the London committee, that the absorbtion of silver in India in forty years has amounted £200,000,000 sterling.

D. What quantities of gold and silver, respectively, exist in China in the form of plate and jewelry?

I am, of course, equally unable to answer this inquiry in figures. Re-

ferring back to what has been said of the conditions of life in China, I may add simply that plate is but little used, and that, while ornaments of personal wear of both metals are frequently seen, the distribution of such among the people *per capita* is inconsiderable. Gold-leaf, however, is very extensively used for the ornamentation of temples, shop-fronts, ceilings, &c.

E. What sums of paper notes, Government, bank, and individual, severally, are there estimated to be in circulation as money in China? Are they legal-tenders or not? If so, to what extent? Are they convertible, &c.?

I have spoken already of the use of paper notes and bills of exchange, and nothing which I could add further would be of value here.

F. What has been the annual mining product of gold and silver in China during the present century?

Dr. Williams* says:

It appears from a memorial addressed to the Emperor in 1838 that most of the native silver is obtained from mines at Hoshan, in Yunnan, and at Sung Sing, on the borders of Cochin China. These mines are farmed out by the government to overseers, and between forty and fifty thousand workmen are employed in them; the annual produce is not far from 2,000,000 taels of silver. There are other mines not so rich as these two, though perhaps more productive in the aggregate, but it is impossible even to guess what amount China receives annually from her gold and silver.

Randot says, briefly, that the annual produce of Chinese mines is not known, and that some one has estimated it at 6,000 kilograms of gold and two millions of silver.

Baron Richthofen,† writing from Sü Chow, on the upper Yangtze, about the mineral region of Southwestern China, states:

The supply of silver (in the market) is small and appears to have been at no time large. Most of it came from Yunnan, but since that source has failed the supply is limited to Weining Chow, in Kivei Chow. The ore of that place was described to me as "very rich," and is said to be plentiful. The license which is given for the exploitation of a silver mine stipulates that the proceeds shall be divided into three portions, one "for the Emperor," one "for the mandarins," and one "for the owner." Soldiers are stationed at the mines to watch the extraction, but there are so many annoyances that the production of silver is almost stopped. Firstly, the owners are robbed by the workmen. Then the different corporations keep a sharp lookout on one another, and as soon as, at a mine which employs a few workmen only, some metal is ready for shipment, the men of another mine who are stronger in numbers attack those of the first and rob them of their gain. These two sources of difficulty are said to be surpassed by that which accrues from the presence of the soldiers, who are described as thieves. Finally, when, having got safely through all these dangers, the owners start with their hard-earned share of the proceeds to Chantung Fu, the next great market-place, their purpose is known beforehand, and they are frequently robbed on the road. It is evident that silver-mining cannot flourish under such circumstances, be the mines ever so rich. Nor is it possible to discover a remedy in a country where the government would have difficulty in trying to appoint to such a tempting place mandarins and officers who are not corrupt and soldiers who are not lawless.

Since the date when Baron Richthofen wrote, 1872, the government has done a great deal for the pacification of Yunnan and Kwei Chow, and it is possible that the production of silver on a considerable scale may begin again.

The same author deals generally with the produce of gold in China, in the following language:

It will be noticed that in my letters on the different provinces I have very seldom made mention of the occurrence of gold, while, to judge from the statements of many writers, the empire would appear to abound in that metal. And, indeed, if the number of places where gold is known to occur, and forms at present the subject of extraction from the soil, were to be considered as a measure of wealth, China would be

* Commercial Guide.

† Letters to Shanghai Chamber of Commerce, 1872.

among the first gold-producing countries in the world—perhaps ahead of California. Mr. Pumpelly's valuable table of places in which, according to Chinese books, gold is found gives sixty-four departments, distributed in fourteen provinces; and it would not be difficult to increase these numbers by consulting the reports of travelers. From my own experience I have arrived at the conviction that the great number of places at which gold is washed from river-sand in China at the present day, far from furnishing a proof of the wealth of the country, is, on the contrary, clear evidence of the superabundance of human labor, the general prevalence of relatively low wages, and the poverty of those engaged in the search for gold. The gold-washers probably earn less than they can get for ordinary labor, and take to that occupation only when there is the least demand for field-work. We can therefore safely assume, speaking generally, that the yield of gold is a measure of the poverty of the province. It appears, indeed, that Yunnan, together with the rest of the metalliferous country, is the only portion of China where the gain which the gold has brought to those who have been engaged in mining it or washing it from the sands of rivers has been such as to compare favorably with that obtained from other industrial enterprises. The number of places where gold occurs in the various hilly countries of Europe is probably greater on an average than in equal areas of China. But no notice is taken of them, because nobody could be induced there to wash gold with as little returns as are obtainable here, if Yunnan be excepted.

Mr. Kingsmill, speaking of placer-mining, says: *

There is no reason to believe in the occurrence of deposits anywhere in China sufficiently rich to attract adventurers; on the contrary, these deposits appear to be of a meager description, barely yielding subsistence to the workers.

If I am to judge of the present produce of gold and silver in China from the foregoing statements and from my general knowledge of the country, I should say that there is not now any appreciable quantity of silver extracted, and that the quantity of gold is not very great. About five million dollars of the latter metal are exported to India. A considerable part of this is imported from California, Australia, Russian Siberia, and other neighboring districts, leaving a corresponding part in addition to the home consumption to be derived from native sources.

3. To what causes are attributable the changes that have taken place in China in the relative values of gold and silver?

The earlier lower relative value of gold was due, probably, to a greater relative production of the former metal, and the preference of the people for silver as a circulating medium. Its higher value during the century and a half of greater commercial intercourse with western countries has, no doubt, been owing to a demand for it, for exportation to Europe and India, principally to the latter country, with which China has had to settle, directly or indirectly, heavy balances arising out of the opium trade.

4. Are these causes regarded as permanent, or is it believed to be likely that they will ultimately be overcome by the relative cost of producing or procuring the precious metals, or by other influences or considerations?

The relative values of gold and silver in China will be governed by the European market. If silver goes down there, relatively, gold will go up here; and if silver goes up, then gold will go down here. No doubt values will be affected by the Asiatic supply and demand, but this will be seen on the London market first, and the market here will follow it in all cases.

As to the preference of the Chinese for silver, it may be said that it is likely to remain constant. Doubtless the government will, sooner or later, establish mints, and when they do so they may possibly coin gold as well as silver, and give to the latter a declared relative value. If they shall do so, however, it will not follow that the issues of gold will be so great or the legislation of such character as to work a revolution in this preference of the people. Gold has been made the standard in

* Blue Book, China, 1871, No. 5.

Japan, but the two countries are as diverse, almost, as are China and America. In the one, it is possible for the government to do nearly as it likes; in the other, the administration follows the ancient lines, and the disposition of the people is never lost sight of, or, at least, seriously battled against. I see no reason to doubt that China will follow India rather than Japan and adhere permanently to the silver standard.

When a mint is established, the course of the government will probably be to proclaim the value of the coinage. Whatever may be the piece coined, they will say that it contains so much silver of the Haikwan or treasury standard, and that it will be accepted for all government dues accordingly. All the rest will be left with the people. They may take the coins or not, as they see fit. Whether they will take them is a question I will speak to later on.

5. What effect, if any, have such changes in the relative market-value of gold and silver had upon the trade, commerce, finance, and productive industries of China, and upon its legal standard of value, or the legislation or measures of government connected therewith?

Gold, as has been seen, enters so little into the currency here that a change in its value, as compared with silver, speaking of the matter in its local aspect only, would not be reflected in any way in the general movements of the trade and commerce of the country, in its finance, or in its productive industries. A rise or fall would not be different in the resulting effect from a rise or fall in coal or iron, or any of the baser metals, with the exception of copper.

A fall in silver in Europe and America would not, however, be without effect here. As the Asiatic countries generally use silver and not gold, cheap silver in Europe would inevitably lead to its exportation to Asia. For a time the prices of produce in China would not be greatly affected, but after a season they would, doubtless, advance somewhat, or, in other words, the purchasing-power of the metal would diminish. On the other hand, imports from foreign countries would not be salable at increased prices at once, and the consequence would be a diminished import-trade until a higher range of prices would enable the importer to sell at such increased rates in silver as to be able to remunerate the manufacturer or shipper for his adventure in gold. However this may be, the demand for silver here will not be less because it is cheaper in Europe, and Europe will have an increased ability to supply the demand, because she has an increased supply or excess of silver.

But it ought not to be supposed that the east will be able to redress the balance between the metals consequent upon the disposition to disfavor silver in western countries. Japan has a gold standard, and it is to be presumed that she will adhere to it. China, with all her great population, is poor, as we have seen, and the course of trade and other circumstances do not tell in favor of a demand on her part for silver. India has been already largely supplied, and she owes a large and increasing debt to England, the interest on which, being payable in gold at London, makes a movement of gold into the pockets of the bondholders there, instead of a movement of silver toward India, to settle the balance of trade. This cessation in the demand for India is so marked, and has been dwelt upon so fully by various writers, and notably in the committee of Parliament, that it need not be further referred to by me. The quantities of silver which will be taken by other Asiatic countries is not likely to be so great as to have an appreciable effect.

And if the east is not likely to redress the disturbed balance between the two metals, it becomes evident that the loss to the west from the fall in silver is likely to be just so much the greater. So far as this fall

is due to the increased supply, the result need not be mourned over, but so far as it is due to adverse legislation, the demonetization of silver, is not the western world parting with value to satisfy an idea? By retaining silver and gold under the bi-metallic system there would, perhaps, be but little danger that at any time a serious derangement of historical relation between the metals would occur; and, if not, commerce between those parts of the world where gold is preferred and those where silver is in favor would move forward in a regular way. Derangement and uncertainty between gold and silver is, then, of consequence, not only in western states, but between them and the Asiatic countries. This fact has been well illustrated by the movements of trade between China and the west during the last twelvemonth. One year ago silver had touched a very low point in London. In consequence of this depreciation the European banks reduced their stocks, or failed to make them up for the coming season, lest they should be caught with considerable quantities of the metal on hand and should lose by its further depreciation. When the tea and silk markets opened, it was found that there was not silver enough to meet the demand, more particularly when silk, owing to a short supply in Europe, ran up greatly in price. In the face, therefore, of cheap silver in Europe it was dear here. Upon a single shipment of the metal from San Francisco, of about £80,000 sterling, one of the banks cleared over 30 per cent. profit. The rise in exchange did not come soon enough, however, to inure to the benefit of the importers of cotton goods who had made large sales at the beginning of the year, and who, in face of the silver panic, forced further sales, and remitted at the low rates prevailing. It thus happened that shippers of cotton goods received less than they should have done, while purchasers of tea and silk paid more.

Fluctuations between the metals would not always, of course, go against producers or consumers in Europe and America, but the tendency would be to force a higher range of prices at both ends in order to secure factors against the additional uncertainties of trade. We should see repeated as between the silver of Asia and the gold of the West the phenomena which have been so often remarked as springing from the paper currency of the United States, uncertainty and fluctuations in values, hesitation and doubt in commerce, resulting most frequently in loss to the classes chiefly concerned, producers and consumers. In the interest, then, of a regular interchange of products between the east and the west, of economy in trade, and of low prices, tending to increased trade, it is desirable that that one of the noble metals which is so much preferred on this side of the globe shall not be unnecessarily discredited upon the other. While this is true as between the east and the west, generally, it is especially true as between the east and our own country. England is able to settle the balance arising upon her general trade with China in Indian opium. We must do so in payments of silver, made direct, or in payments of it or of something else made to England. To cheapen silver is to degrade one of our own products and to increase the balance against us upon our Asiatic trade. No one would doubt that a fall of 10 per cent. in opium would be of serious concern to India and England. Why should we feel less sensitive to a fall of the same extent in an article produced by us?

6. Upon what terms of seigniorage or brassage are gold and silver bullion, respectively, coined in China? Are there any legal limits, and, if so, what are they, to the coinage of gold and silver? Does the government monopolize the coinage, or are private mints permitted? Are gold or silver coins of other countries imported and permitted to be used as legal tender; and, if so, at what rates? Are gold and silver coins manufactured for and exported to other countries? Are any subsidiary coins, or coins

whose emission is limited by law or regulation, imitated and introduced surreptitiously into China; and, if so, to what estimated amounts?

As no gold or silver is coined in China, of course no seigniorage is charged, and no limits of coinage have been established. The coinage of copper is a government monopoly, but, as we have seen, it has been largely counterfeited. Private mints are, I believe, unknown. Silver coins are largely imported, and by the terms of the treaties are a legal tender for customs-dues. The provisions of our treaty are that "Duties shall be paid and received either in sycee-silver or in foreign money at the rate of the day." The British treaty, however, provides that "Duties shall be paid to the bankers authorized by the Chinese government to receive the same in its behalf, either in sycee or in foreign money, according to the assay made at Canton on the 13th of July, 1843." It is a curious fact that Carolus and Mexican dollars have been received by the customs at Canton at a standard (assay) rate, while at Shanghai they have been taken at the "rate of the day." This rate has been for twenty years higher than the assay value of the coin.

It was for reasons which will be evident from this statement that the trade-dollar was submitted to assay at Canton in 1873, and a proclamation by the authorities declared its value at the Haikwan standard. It was thus put in the way to be accepted, not only by the customs, as the Mexican dollar had long been, but also by the people, at about its intrinsic value. At Shanghai, however, where the Mexican dollar was at a premium, the desirable thing was to get the trade-dollar into circulation also at a premium, and a proclamation making it receivable for customs-dues at a given rate might have limited its value in the market, as the value of the Mexican had been limited in Canton. For this reason it was thought best to let it alone to work its way into circulation.

I feel quite sure that it was a mistake to coin the trade-dollar of superior value to the Mexican. There is no great reason to believe that the Chinese will take it more readily than the Mexican on that account. It is convenience and certainty which they look to in coinage, as well as intrinsic value. Their longer acquaintance with the Carolus dollar induced them to accept it at Shanghai, for years, at 10 and even 20 per cent. above its value, when they were altogether rejecting the Mexican. Sonow they reject the trade-dollar in favor of the Mexican, in face of the fact that the former is worth more. The additional cost of the trade-dollar is, in my opinion, just so much of a load which it must carry in its competition with the Mexican. It might in fact be as well, if we are to coin again the old silver dollar of 412½ grains, to give up the trade-dollar altogether. The latter has not yet come into circulation anywhere in the east excepting at southern ports, where it is received at its intrinsic value as declared by assay; in point of fact at less than its intrinsic value, as it is undervalued. We could, at once, demand that the United States dollar should be received in the same way, taking care to get a better assay. Our proper dollar would then start on as good terms as the new issue, and, as it could be supplied at a lower price, it would probably come into general use here sooner than the other. The number of foreign subsidiary coins current in China is inconsiderable, and they are probably found only where foreigners reside. They do not pass, as a rule, at their face-value, but at a discount which is equal to their debasement.

A movement is now on foot to secure the establishment of a mint by the Chinese government, which deserves remark because of its general

relation to the subject of this paper, and because of its bearing upon the question of the future consumption of silver by the empire.

In one of the first dispatches which I addressed to the Department after I was named minister to China, I spoke of the need which exists for a coinage here, asked permission to represent the matter to the government, and to be provided with information necessary to my purpose. Before the response was received, I mentioned the subject informally to the inspector-general of customs, and learned from him that he had already, more than once, urged it upon the attention of the government. It happened that, at that time, the Chinese were much alarmed at the prospect of a war with England, and the moment seemed auspicious to bring the matter again to their notice, as they were casting about to see what steps they could take which would indicate to England their desire not only to preserve the peace, but to pursue a progressive policy. The mint proposal was introduced to them by Mr. Hart, in consequence of our conversation, as a measure of the kind for which they were looking, and they assented to it at once, and authorized their minister, the viceroy at Tientsin, to assent to it if Sir Thomas Wade, the British minister, should, at Mr. Hart's suggestion, bring it forward. Mr. Hart mentioned the matter to Sir Thomas, but for some reason which is beyond my knowledge he failed to place it before the viceroy. This failure was a great disappointment to me and to the inspector-general, but fortunately the Chinese have not shown a disposition to recede, and the German minister, to whom I have communicated the facts, and who is able to exert a degree of pressure upon them in connection with the revision of his treaty, has already secured from them a qualified promise that they will carry the matter along. I have, therefore, good reason to believe that the proposal will be an accomplished fact in the near future.

It cannot be supposed that the Chinese are, in any respect, different from other people in their need for and their capacity to appreciate a currency convenient in form and based on value. The fact that they have largely used dollars coined in other countries, and have given to them a value in exchange far beyond their intrinsic worth, is evidence in point, if any were needed.

Nor can it be considered that they have attained, under the present system of moneys, to a result which is at all satisfactory. I have dwelt very fully in this paper upon the uncertain value of their issues of cash, and its inferior value, and also upon the difficulties of scale and touch which they encounter in passing silver by weight, and shown that in failing to coin the precious metals they have not reached a system by which their exchanges can be managed with an appropriate degree of ease and accuracy. There can be no doubt that the regulation of their currency would prove of immense advantage to the nation. That they have not accomplished this heretofore is attributed to a variety of reasons. The first of these is the lack of skill necessary to make a coinage not easily counterfeited. Du Halde says, quaintly: "It is easy to judge that there would be many debases of money in China if silver were coined, since the small pieces of copper are so often counterfeited." Another may be found in the fact that an issue of silver could be made only at or near its intrinsic value; that, as a consequence, the government could get but a small profit upon it, if any, while upon their copper currency they receive a heavy profit. They would consider silver issues, therefore, as likely to cut off a source of revenue. Still another reason is that while the government could not trust that its people would not counterfeit these coins, the people on the other hand would

not be disposed to trust the ability of the government to keep its issues up to standard. Their experience with the debased paper and copper currencies which have been foisted upon them at various times would be justification enough for their distrust.

The situation is very different, however, at the present time. The government can procure foreign artisans and machinery and issue as perfect coins as any other state. By placing the mint under a partial foreign management the merit of their currency can be perfectly sustained and the confidence of the people in it established. Attempts to debase it would affect not only Chinese, but foreigners, and would be made the occasion of instant remonstrance on the part of foreign representatives. And whatever profits may have been derived from the issue of copper coins, when these have been kept at all near their standard value, it is safe to say that they have gone largely into the pockets of officials, and have not reached the imperial treasury in any great proportion. The copper or subsidiary coinage of a properly-managed mint would no doubt yield to the central government a larger profit than that which they receive under the present system.

It would seem, then, that neither the government, the people, nor foreigners have any great reason to fear the result of an issue of silver coins of standard value.

It is certain, on the other hand, that, while the advantages which would result to China and to commerce from an improvement of the currency would be very great, this cannot be brought about excepting by this government itself. I mention this point because the merchants of the British colony of Hong-Kong have a disposition to believe that it is their mission to provide coins for China, while, again, the hope has been entertained in some quarters that the trade-dollar will become the Chinese standard of value and medium of exchange. The Carolus and Mexican dollars are very largely used in South China, at and near the ports. At Shanghai, both pass into the neighboring silk-districts, but at the river and northern ports dollars are rarely seen, and do not go into the interior at all. It is astonishing, indeed, that foreign coins have been so much used as they have, and doubtless the facts indicate that as time goes on their use would be further extended. What is wanted here, however, is a coinage system under which any holder of silver can take it to the mint and have it coined into pieces of known value which will be accepted by the government and people throughout the length and breadth of the land. It is not possible that foreign coins can attain to such a position, and it is entirely possible that the issues of native mints would.

Proposals to supply a currency from British or American mints ought not to be encouraged. If they are brought forward with generous ideas, the purpose is a mistaken one, because it would be more generous to lead the Chinese to coin their own moneys. If with selfish motives, the mistake is not less evident. The profits to be derived would be inconsiderable, and would be more than compensated for by the increased demand for silver and the general improvement in commerce which would attend the amelioration of the native currency.

Beyond a doubt, an increased demand for the produce of our silver-mines would follow the coinage of silver by the Chinese. It would seem that an increased demand is to be desired, because we produce the metal, and would find obvious advantage in selling it at a high rate, and because the discredit which has lately attached to it may lead to further legislation against it and a further discouragement of its use.

It has been suggested that the western world may derive no advantage from an increased consumption of silver in the east, unless it follows

an increased production on the spot. The argument is, in effect, that an upward tendency in the precious metals indicates a supply which is insufficient for the demand, a relative cheapening of produce, and increment of all permanent burdens, such as national debts, obligations of mortgage, &c.

Silver, however, is in need of help just now, and, moreover, any one who would look for rapid movements on the part of the Chinese, tending to a larg ecoinage of the metal and a greatly increased consumption, would be mistaken in his views. Already drained of the precious metals, as a result of a long-continued adverse course of trade and of an improvident government, this empire can rise to no emergency. Under foreign rule, indeed, the history of Indian finance, showing an absorption of £200,000,000 sterling of silver in forty years, might possibly be repeated here, but nothing like it will come about under native control. The demand for silver for coinage purposes would not, I feel sure, contribute in any marked degree to affect its price in the markets of the west for a considerable period. The demand which would be created ultimately is another matter, and one which cannot be estimated with certainty, but it cannot create alarm. China is not only a large body, but a remarkably sluggish one, and there will always be time to take precautions against the result of any movement in which she may be concerned.

7. State the annual imports and exports of bullion.

I have already indicated the fact that for the major part of the last forty years the tendency of bullion has been outward; but that at the moment a change seems impending which will be favorable to the empire. In giving the data and the arguments in support of this view I have depended mainly upon the very general statements which have been available to me. The figures taken from the customs reports are, of course, precise; but it is to be said that one cannot know how far accurate are the valuations of merchandise upon which they are based. An overvaluation of imports and an undervaluation of exports might make the difference between a result for or against China. The following tables would seem, however, to agree, so far as they go, with what I have set down as the general tendency. They are taken from the North China Herald of November 23 last, and are founded upon evidence given in the appendices to the report of the London parliamentary committee. The report I have, but not the appendices, and I am obliged to quote at second hand.

Exports of bullion from China.

	Year.	Silver.	Gold.
To England	1868	.....	£1,307
To India	1868	£2,963	1,501,210
To England	1869	836	780
To India	1869	3,707,567	1,542,785
To England	1870	481,882	61,579
To India	1870	1,247,854	1,505,352
To England	1871	3,068,216	1,500
To India	1871	1,324,141	1,331,746
To England	1872	61,893	.....
To India	1872	161,273	860,968
To England	1873	499,662	128,846
To India	1873	912,967	812,651
To England	1874	371,471	282,586
To India	1874	353,302	1,083,584
To England	1875	112,710	341,669
To India	1875	349,507	1,032,982
Total		12,606,194	10,489,545

Total of gold and silver, £23,096,639.

Shipments of silver to China.

	1868.	1869.	1870.	1871.
Europe*	£826, 400	£1, 391, 000	£1, 496, 300	£1, 323, 500
America†	1, 238, 800	1, 297, 490	1, 099, 370	688, 642
India‡	17, 085	11, 658	5, 497	134, 335
Total	2, 082, 285	1, 700, 148	2, 601, 167	2, 146, 477

	1872.	1873.	1874.	1875.
Europe*	£1, 945, 800	£2, 849, 500	£1, 414, 286	£1, 105, 380
America†	1, 495, 370	1, 267, 070	1, 664, 935	1, 530, 590
India‡	119, 732	12, 730	102, 537	14, 535
Total	3, 560, 902	4, 129, 300	3, 181, 758	2, 650, 505

Grand total, pounds sterling, 23,052,542.

These tables purport to show the movements of bullion between England, India, and California and China for the period of eight years from 1868 to 1875, inclusive. According to the figures given, the whole sum of the exports exceeded that of the imports by the narrow margin of £40,000 sterling.

The tables are, however, manifestly incomplete. The items of the shipments from England include those designed for Japan as well. No statistics are given for movements of the metals between Japan, or other neighboring districts, and China. They afford no indication that China imports any gold, or exports it, saving to India and England. It is idle to analyze them under these circumstances, further than to say that they support, generally, the theory that the balance of trade has gone against China of late.

There is a degree of significance, however, in the fact that the tables show a considerable export of gold, which serves to balance a part of the importation of silver. A large part of it goes to India in the form of gold-leaf. The shipments to England have been made, no doubt, as a result of the relative appreciation of gold in Europe. The fact that these shipments have not been large would indicate that the supply is not elastic. I have already suggested the sources from which this supply is derived.

How far the tables should make us hesitate to accept the showing of the customs returns of the movements of merchandise cannot readily be told. I believe that much care has been taken in the compilation of the latter, and in valuing merchandise for statistical purposes. The returns for 1875 appear indeed to have been carefully revised, and a lower estimate put upon the trade as a consequence. This revision extended back over the eleven years for which, earlier in this paper, I gave the figures. A recent writer in the North China Herald asserts broadly, however, that the trade is now largely favorable to China, and gives figures for his conclusions based upon valuations of merchandise different from those of the customs. This cannot have been true for the past, I think, but I have already intimated that it is tending to become so.

8. Upon what terms is the mining of the precious metals permitted, &c.

Some facts have been stated in the course of what has been already

* These figures were furnished by Messrs. Matheson & Co. to the committee, and *include Japan.*
† These were given by Consul Booker, San Francisco.
‡ These are from the returns of the Indian government.

written which indicate the difficulties attending the mining of the precious metals in China. It is doubtful whether, looking to the results of legislation as set forth, a study of the legislation itself would be of any value.

Having thus responded to the several questions propounded by the Monetary Commission, I have only to express, in conclusion, my hope that what I have written may be found of some interest and value.

I shall send to you by an early opportunity one or two copies of this paper.

I have the honor to be, sir, your obedient servant,

GEORGE F. SEWARD.

Hon. HAMILTON FISH,
Secretary of State.

[Inclosures.]

1. Average annual value of pure gold in pure silver at Peking from 1865 to 1873, inclusive, (document A.)
2. Monthly values as above for 1874, 1875 and 1876, (document B.)
3. Scattered quotations as above for years prior to 1860, (document C.)

A.

Average annual value of gold in silver—ounce for ounce—at Peking from 1865 to 1873, inclusive.

1865	15.00	1870	15.75
1866	15.10	1871	15.30
1867	15.20	1872	15.40
1868	16.00	1873	15.80
1869	15.50		

B.

Monthly quotations of gold in silver—ounce for ounce—for the years 1874, 1875, 1876, Peking.

	1874.	1875.	1876.
January	15.6	16.0	16.3
February	15.7	16.0	17.1
March	15.6	16.1	16.7
April	15.4	16.1	16.8
May	15.6	16.1	17.3
June	15.8	16.1	17.4
July	15.8	16.2	17.2
August	15.9	16.3	17.5
September	16.0	16.3	16.8
October	15.8	16.4	15.9
November	15.7	16.0	16.3
December	15.8	16.1	16.4

C.

Relative values of gold and silver in China.

1285	1 to 10	1821	1 to 18 Peking.
1375	1 to 4	1844	1 to 17 Canton
1779	1 to 17.5 Peking.	1845	1 to 16 Canton.
1810	1 to 10 Canton.		

Relative values at Shanghai and London.

	Shanghai.	London.		Shanghai.	London.
1849	1 to 15.5	15.83	1855	1 to 12.8	15.36
1850	1 to 14.1	15.83	1856	1 to 13.4	15.33
1851	1 to 14.4	15.46	1857	1 to 14.2	15.27
1852	1 to 14.4	15.57	1858	1 to 14.7	15.36
1853	1 to 16.5	15.33	1859	1 to 14.9	15.21
1854	1 to 14.9	15.33	1860	1 to 15.9	15.30

Monthly quotations, Shanghai, per bar weighing ten taels in Shanghai scales. Value given in Shanghai taels.

	Peking gold.	Soochow gold.
1857—May	160	158
July	148	147
September	148	147
December	148	147
1858—April	159.75	157
July	163	160
September	*166*	*163*
1859—April	162	160
June	*161*	*159*
November	164	162
1860—January	162	160
April	167	164
June	187.50	184
September	162	160
October	185	182

RUSSIA.

A.—Minister Boker to Secretary of State.
B.—Replies of Minister of Domains to interrogatories of commission.

A.

Mr. Boker to Mr. Evarts.

[No. 219.] LEGATION OF THE UNITED STATES,
St. Petersburg, September 26, 1877. (Received October 15.)

SIR: I have the honor herewith to inclose a reply of the Russian government to certain questions proposed by a committee of Congress regarding the gold and the silver product of Russia, together with a translation of the original document. A comparison of dates will show when these questions were submitted and when the reply was obtained.

I have, &c., * * *

GEO. H. BOKER.

B.

[Inclosure 1 in No. 219.]

Minister of the Domains to Mr. Boker.

ST. PETERSBURG.

The Minister of the Domains has the honor to present his compliments to his excellency the Envoy Extraordinary and Minister Plenipotentiary of the United States of America, and to send him herewith, in answer to his communication of the $\frac{2}{14}$th October, 1876, the answers to his questions on the mining and production of gold and silver in Russia, which can be answered by the Ministry of the Domains.

Question 1. What was the amount of annual production and movement of gold and silver in Russia from 1870 to 1876? Answer. The most accurate returns on the production on gold are collected in the local administration of the mines. These send every year to the ministry reports showing the number of the mines worked and unworked, the quantity of sand washed, and the quantity of gold obtained in such gold-producing districts. Silver is mined only in the mines of Altaï and of Nertchinsk, which are under the control of the cabinet of the Emperor, and in the works of Alahya, in the Caucasus, belonging to the government.

Years.	The production was—	
	Of gold.	Of silver.
	pouds. lbs.	*pouds. lbs.*
1870	2,156 23	867 30
1871	2,399 37	828 30
1872	2,330 30	752 5
1873	2,024 29	606 21
1874	2,027 4	720 14
1875	1,929 18	589 34
1876	1,895 27	(*)

* Returns not received.

(N. B. The poud is 36 English pounds. The Russian pound is $\frac{1}{40}$ of a poud.)

Question 2. Is there anything new in the conditions or facilities of working the gold and silver mines, such as new inventions or improved methods? Answer. The practical art of washing the gold is constantly undergoing improvements, which, however, are in principle only modifications of the system introduced in the second quarter of this century. In Eastern Siberia the American system of washing is being introduced by degrees.

Very lately the working of veins of gold known for their richness at Bérésoosk, in the Ural, has been begun with the aid of improved methods, such as steam-crushers and machines for amalgamating, but the quantity of gold obtained from these veins is very insignificant in comparison with the gold obtained from placers.

Question 3. What was the annual product of gold and silver from 1800 to 1863? Answer. According to official returns, the product of the precious metal was—

Year.	Quantity obtained—	
	Of gold.	Of silver.
	pouds. lbs.	*pouds. lbs.*
1814	16 3	No returns.
1815	14 9	
1816	15 31	
1817	18 7	
1818	16 26	
1819	14 8	
1820	19 34	
1821	27 37	
1822	53 31	
1823	105 26	
1824	205 32	
1825	237 12	
1826	230 10	
1827	261 33	
1828	291 33	
1829	288 27	
1830	382 26	1,282 2
1831	402 5	1,318 3
1832	422 30	1,311 18
1833	409 30	1,256 11
1834	405 2	1,262 30
1835	392 37	1,212 18
1836	406 4	1,200 36
1837	442 22	1,203 12
1838	443 5	*1,279 20
1839	495 32	
1840	457 39	
1841	646 16	
1842	909 3	
1843	1,241 17	
1844	1,279 37	1,193 19
1845	1,307 8	1,911 35
1846	1,611 26	1,194 10
1847	1,757 8	1,143 38
1848	1,684 28	1,136 5
1849	1,589 5	1,118 7
1850	1,453 32	1,068 12
1851	1,473 33	1,052 16

* Average.

Year.	Quantity obtained—	
	Of gold.	Of silver.
	pouds. lbs.	*pouds. lbs.*
1852	1,366 30	1,063 5
1853	1,463 26	1,023 28
1854	1,596 27	1,054 31
1855	1,649 14	1,062 39
1856	1,655 19	1,036 26
1857	1,733 23	1,058 6
1858	1,710 24	1,027 9
1859	1,538 34	1,084 4
1860	1,491 18	1,070 15
1861	1,456 2	967 15
1862	1,460 29	1,033 23
1863	1,459 18	1,078 25

[N. B.—A poud is 36 English pounds. The Russian pound is $\frac{1}{40}$ of a poud.]

Question 4. Is any coin or ingot made by the mint for exportation? Answer. The mint returns to the owners of the mines alone their precious metals in gold coin at the rate of 88-96ths, in silver at the rate of 83⅓-96. A single exception is made in favor of jewelers, who may procure, in small quantities, precious metals of a high standard.

Question 5. On what conditions is the mining of the precious metal allowed? Answer. Mining gold and silver on land belonging to the government is allowed to any one, Russian subject or foreigner, who enjoys civil rights, on condition only of taking a license, for which he pays 40 copecks (about 31 cents) for expense of stamps.

(N. B. The rouble has depreciated from 77.17 cents to 50 cents, Sept., 1877. Forty copecks is now worth 20 cents only.)

The extent of each concession of silver-bearing soil must not exceed 250,000 square sagènes, (7 feet,) about 40 acres. The length and breadth of the surface is to be regulated according to the position of the vein. The silver extracted from the ores of the government lands is subject to a tax of 15 per cent. in kind, while the silver extracted from private property pays only 10 per cent. All silver must be sent to the mint at St. Petersburg. The government is at present considering the project of a new law relating to mining silver. According to this project the compulsory transmission of the silver to the mint, as well as the taxes on this metal, will be abolished.

The conditions for mining gold are set forth in the laws of the gold-producing business promulgated in 1870.

According to this law the length of a mine must not exceed 5 versts, (3⅓ miles.) As regards the width of the surface, the mines of the Ural must be at least 100 sagènes (700 feet) wide, while those of Siberia may occupy all the width of the valley, without regard to the number of sagènes lying between the two neighboring mountains. The authorization to work a mine is granted upon a request for a concession made by the person who has discovered the placer.

For each sagènes (7 feet) in length of the deposit, ("gisement,") (concession?) the miner is bound to pay 15 copecks, (about 12 cents) for locating the mine, and, as the maximum for the length of a concession, 375 roubles, ($289.39, or, at present rates, $187.50.) The quantity of gold obtained must be inscribed in books under the control of the in-

spector of mines, and delivered for this purpose to the miner. The gold must be sent to the government smelting-houses, which fix the amount which reverts to the proprietor in metallic value, and send the gold in ingots to the mint at St. Petersburg.

The mint delivers to the proprietor checks payable in gold at the end of six months. These checks may be put in circulation by assignment. Until the year 1877 gold found in the mines of the government was subject to an ascending tax of 5 per cent, 10 per cent., and 15 per cent. Since the 1st of January of that year this tax has been abolished, and the owner of the gold has only to pay to the government the expenses of smelting the metal, its transportation to St. Petersburg, to the mint, of cleaning it, and of striking off the coins—in all about 2½ per cent.

The government is at present occupied with the projects of a law for the abolition of the compulsory transportation of the gold to the mint, and proposes to return it to the owners of the mines, after it has been refined, in ingots instead of coin. At the same time there is a project to authorize the mining of the gold in veins, and to replace the tax now payable according to the length of the placer, by a tax according to its square measurement.

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY.

00110271

Digitized with financial assistance from

Hermès India

a project facilitated by the Rotary Club of Bombay

on 12 April, 2019